

# MZ-E80

## SERVICE MANUAL

Ver 1.1 2000.05  
With SUPPLEMENT-1  
(9-927-132-82)

*E Model  
Tourist Model*



Photo: Silver

US and foreign patents licensed from Dolby Laboratories Licensing Corporation.

Model Name Using Similar Mechanism	MZ-E55
Mechanism Type	MT-MZE55-150
Optical Pick-Up Name	ODX-1B

### SPECIFICATIONS

#### System

##### Audio playing system

MiniDisc digital audio system

##### Laser diode properties

Material: GaAlAs

Wavelength:  $\lambda = 790$  nm

Emission duration: continuous

Laser output: less than  $44.6 \mu\text{W}^*$

\* This output is the value measured at a distance of 200 mm from the objective lens surface on the optical pick-up block with 7 mm aperture.

##### Revolutions

800 rpm to 1800 rpm (CLV)

##### Error correction

Advanced Cross Interleave Reed Solomon Code (ACIRC)

##### Sampling frequency

44.1 kHz

##### Coding

Adaptive Transform Acoustic Coding (ATRAC)

##### Modulation system

EFM (Eight to Fourteen Modulation)

##### Number of channels

2 stereo channels

1 monaural channel

##### Frequency response

20 to 20,000 Hz  $\pm 3$  dB

##### Wow and Flutter

Below measurable limit

##### Outputs

Headphones: stereo mini-jack, maximum output level 5 mW + 5 mW, load impedance 16 ohms

#### General

##### Power requirements


Nickel metal hydride rechargeable battery NH-14WM (supplied)

One LR6 (size AA) battery (not supplied)


Sony AC Power Adaptor AC-E15L<sup>1)</sup> (not supplied) connected to the DC IN 1.5 V jack

#### Battery operation time


You can check the battery condition with the battery indication which is displayed while using the player.

 Battery power decreasing



 Weak batteries. Replace/recharge the batteries



 The batteries have gone out. "LoBATT" flashes in the display of the remote control, and the power goes off.

#### Battery life\*

Batteries	Playback
Ni-MH rechargeable battery (NH-14WM)	Approx. 16 hours**
One LR6 (size AA) alkaline battery	Approx. 22 hours
One LR6 (size AA) alkaline battery and a Ni-MH rechargeable battery (NH-14WM)	Approx. 42 hours**

\* The battery life may be shorter depending on operating conditions and the temperature of the location.

\*\* With a fully charged battery

#### Dimensions

Approx. 81 x 18.7 x 83.5 mm (w/h/d)  
(3 1/4 x 3/4 x 3 3/8 in.) not including projecting parts and controls

#### Mass

Approx. 100 g (3.6 oz.) the player only  
Approx. 145 g (5.2 oz.) incl. a premastered MD and a nickel metal hydride rechargeable battery NH-14WM

#### Supplied accessories

Battery Charger (1)  
Rechargeable battery (1)  
Rechargeable battery carrying case (1)  
Headphones with a remote control (1)  
Dry battery case (1)  
Hand strap (1)  
AC Plug Adaptor (1) (Tourist model only)

Design and specifications are subject to change without notice.



## PORTABLE MINIDISC PLAYER

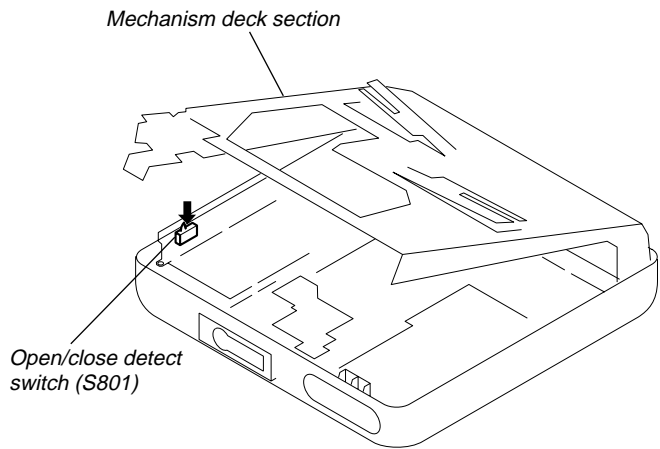
# SONY®

# SECTION 1 SERVICING NOTES

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- Removing the mechanism deck causes this set to be disabled during a repair with the power supplied to the set. Therefore, lock convex portion of open/close detect switch (S801) during a repair.



- Replacement of CXD2663GA (IC601) used in this set requires a special tool. Therefore, it cannot be replaced.

### Flexible Circuit Board Repairing

- Keep the temperature of the soldering iron around 270 °C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

### Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

#### CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

CLASS 1 LASER PRODUCT  
LUOKAN 1 LASERLAITE  
KLASS 1 LASERAPPARAT

This MiniDisc player is classified as a CLASS 1 LASER product.  
The CLASS 1 LASER PRODUCT label is located on the bottom exterior.

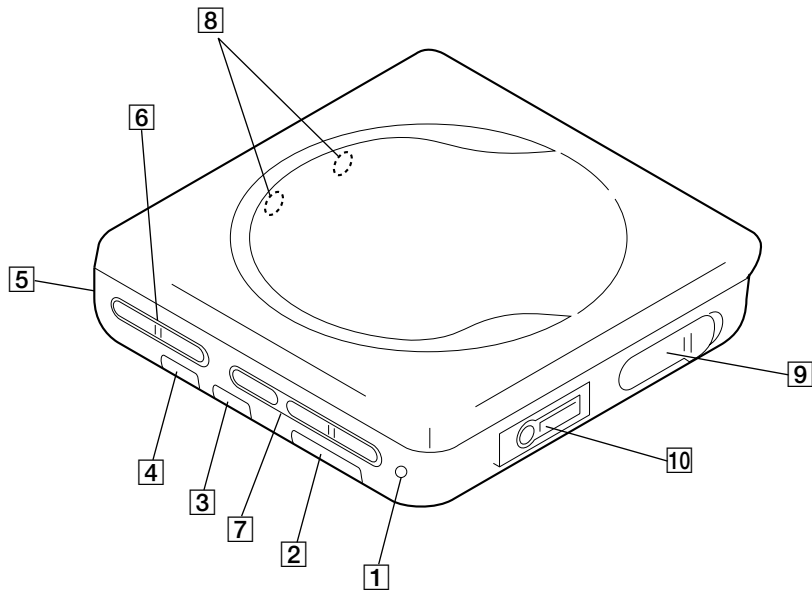
#### SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK  $\triangle$  OR DOTTED LINE WITH MARK  $\triangle$  ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

## SECTION 2 GENERAL

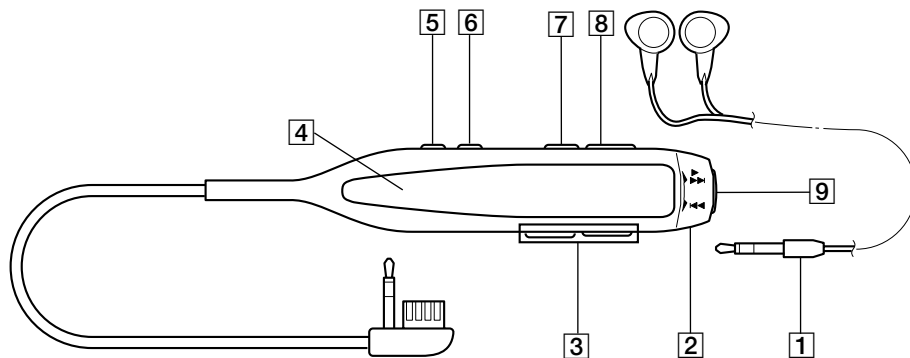
### • LOCATION OF CONTROLS

#### – Main Unit –



- |  |   |
|--|---|
| <p><b>1</b> OPERATE indicator</p> <p><b>2</b> HOLD switch</p> <p><b>3</b> DIGITAL MEGABASS switch</p> <p><b>4</b> AVLS switch</p> <p><b>5</b> Battery cover</p> <p><b>6</b> VOLUME +/- buttons</p> | <p><b>7</b> MD operate buttons</p> <p>▶▶▶▶ ( FF • PLAY )</p> <p>◀◀◀ (REW )</p> <p>■ (STOP)</p> <p><b>8</b> External battery terminal (+/-)</p> <p><b>9</b> OPEN switch</p> <p><b>10</b> ◡ REMOTE jack</p> |
|--|---|

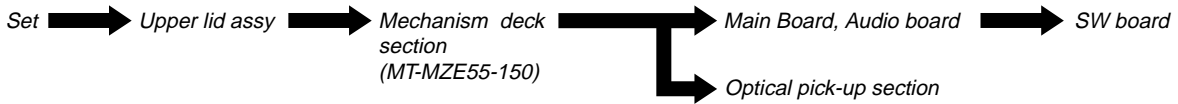
#### – Remote commander with headphone –



- |  |
|--|
| <p><b>1</b> Headphone</p> <p><b>2</b> MD operate switch</p> <p>▶▶▶▶ (PLAY • FF)</p> <p>◀◀◀ (REW)</p> <p><b>3</b> VOL +/- buttons</p> <p><b>4</b> Display window</p> <p><b>5</b> DISPLAY button</p> <p><b>6</b> PLAYMODE button</p> <p><b>7</b>    (PAUSE) button</p> <p><b>8</b> HOLD ➔ switch</p> <p><b>9</b> ■ (STOP) button</p> |
|--|

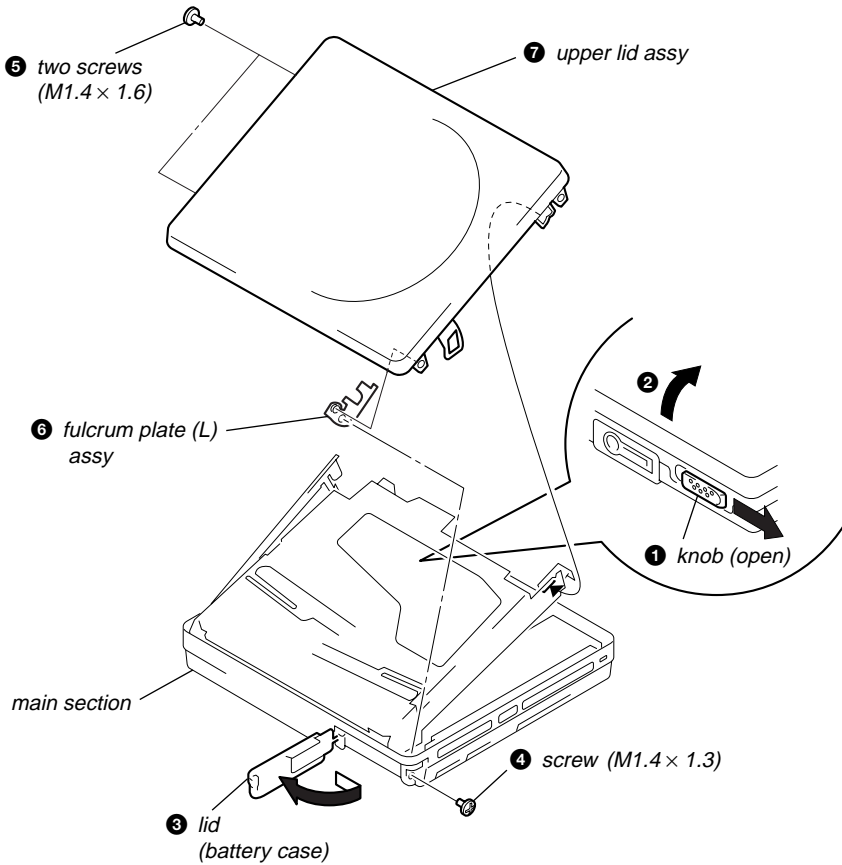
## SECTION 3 DISASSEMBLY

- This set can be disassembled in the order shown below.

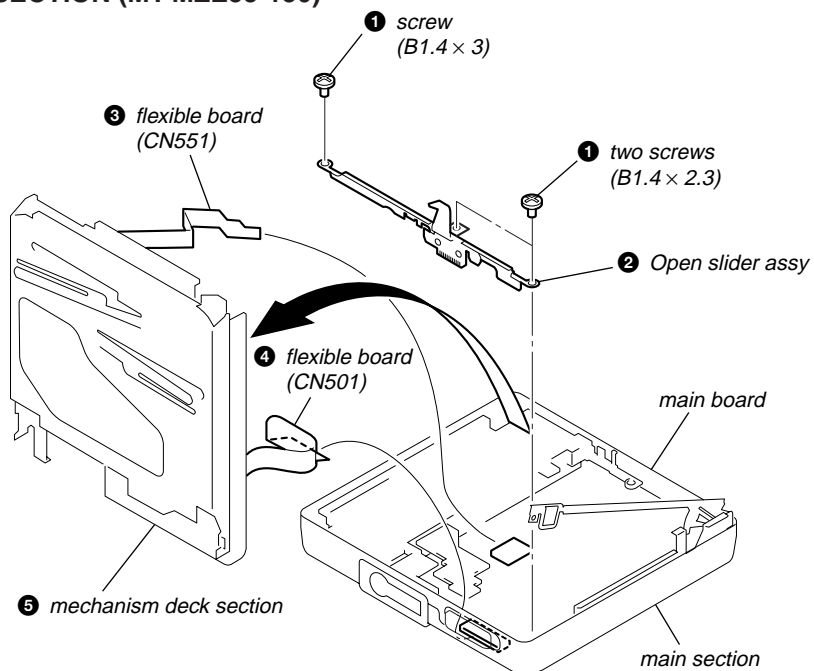


**Note:** Follow the disassembly procedure in the numerical order given.

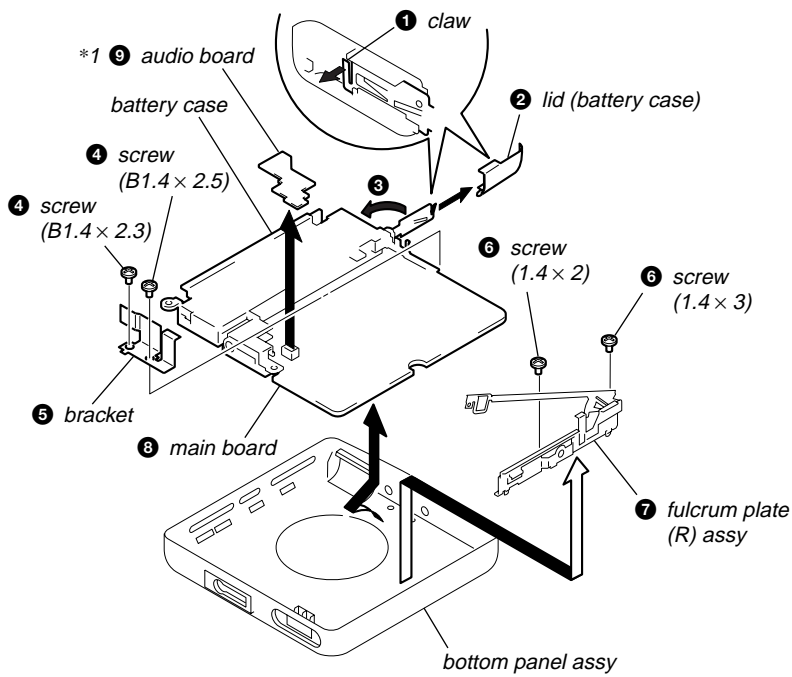
### UPPER LID ASSY



### MECHANISM DECK SECTION (MT-MZE55-150)

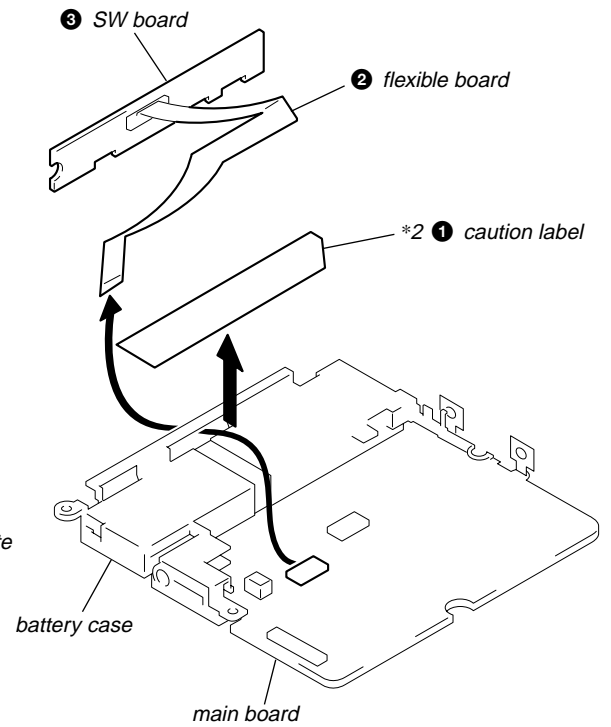


## MAIN BOARD, AUDIO BOARD



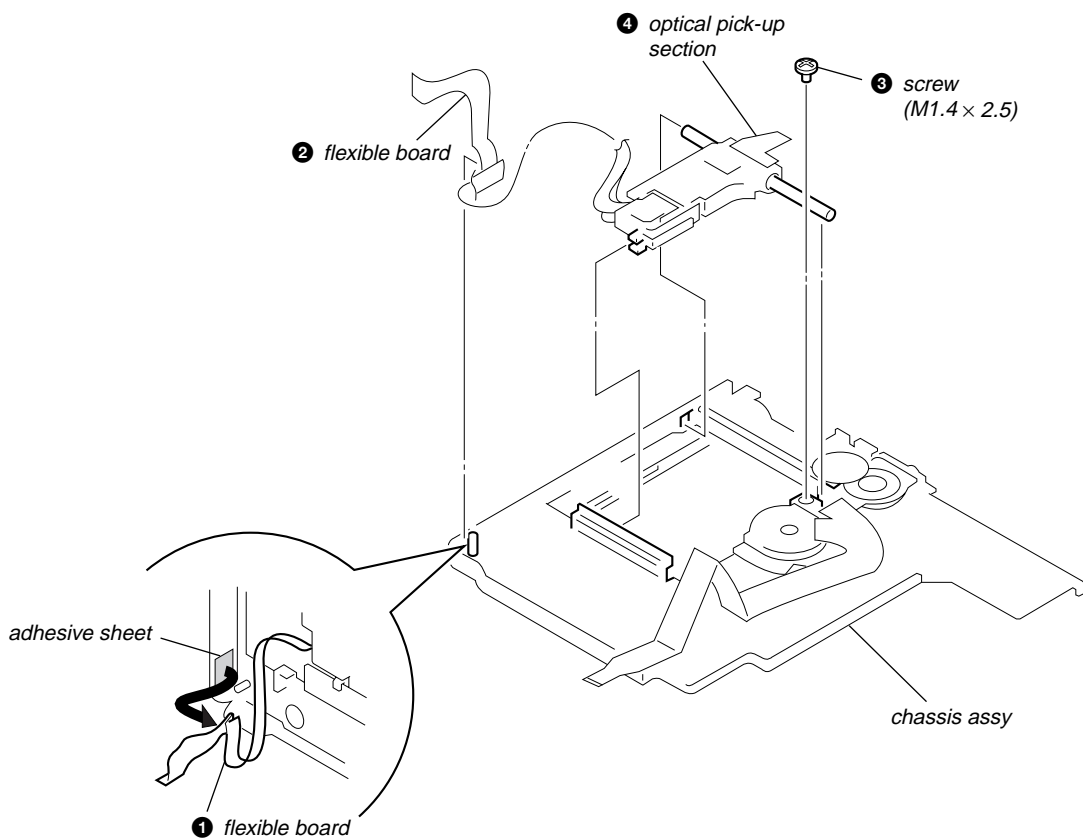
\*1 Note: In removing the Audio board, raise the connector section uprightly.

## SW BOARD



\*2 Note: If the SW board or flexible board is removed, the caution label (4-213-092-01) on the flexible board will be defaced or deformed, and replace it with a new label.

## OPTICAL PICK-UP SECTION



# SECTION 4 TEST MODE

### Outline

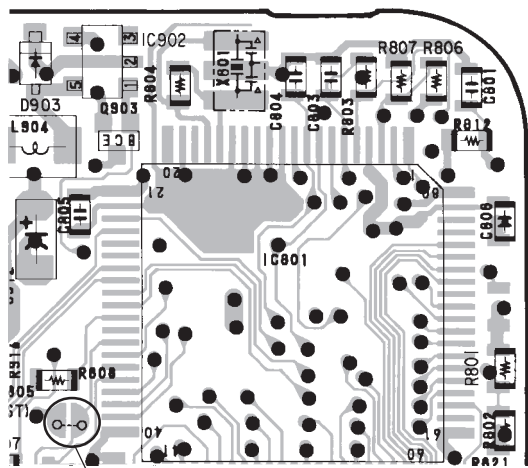
- In this set, overall adjustment mode is made available by entering test mode to perform automatic adjustment of CD and MO. In the overall adjustment mode, the disc is determined whether it is CD or MO and adjustments are performed in sequence. If a fault is found, the location of the fault is displayed. Also, in servo mode, each adjustment can be automatically made.
- Operation in the test mode is performed with the remote commander. A key having no particular description in the text, indicates a remote commander key.

### Setting the Test Mode

To enter the test mode, two methods are available :

1. Entering method with key input.  
Turn on the HOLD switch on the set. While pressing the ■ key on the set, press the following remote commander keys in the following order :  
▶/▶▶▶ → ▶/▶▶▶ → ◀◀◀ → ◀◀◀ → ▶/▶▶▶ → ◀◀◀ → ▶/▶▶▶ → ◀◀◀  
▶/▶▶▶ → ◀◀◀ → || → ||
2. Entering method by shorting the test point  
Solder bridge the test point TAP805 (TEST) on the MAIN board (connect IC801 pin ③ to GND), and turn on the power.

### - MAIN BOARD (Conductor side) -



Test mode  
(Short : Test mode  
Open : Normal mode)

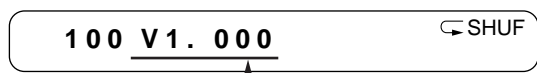
### Releasing the Test Mode

A test mode releasing method varies depending on the test mode setting method.

1. When test mode was entered with key input, turn off the power.
2. When test mode was entered by shorting the test point, turn off the power and open the solder bridge of TAP805 (TEST MODE) on the MAIN board.

### Operation of Setting on Test Mode

When the test mode is set, the LCD displays the following :

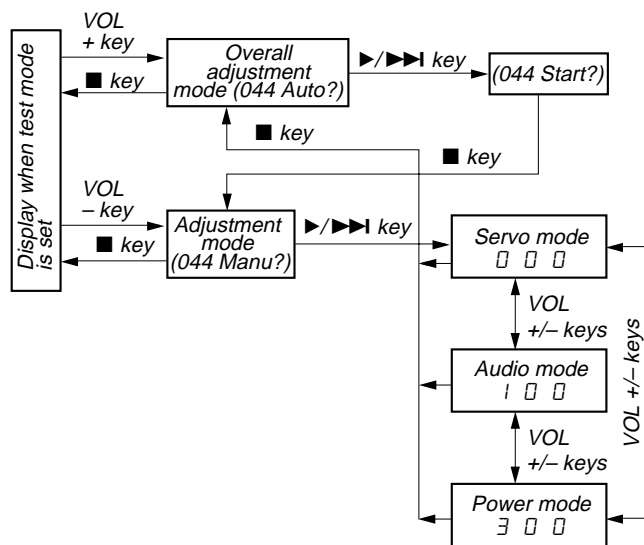


LCD on remote commander

- The cycle - the above ROM version display → All lit → All off - is repeated.
- When the PLAYMODE key is pressed and hold down, the display at that time is held so that display can be checked.

### Configuration of Test Mode

The test mode has the configuration given below.

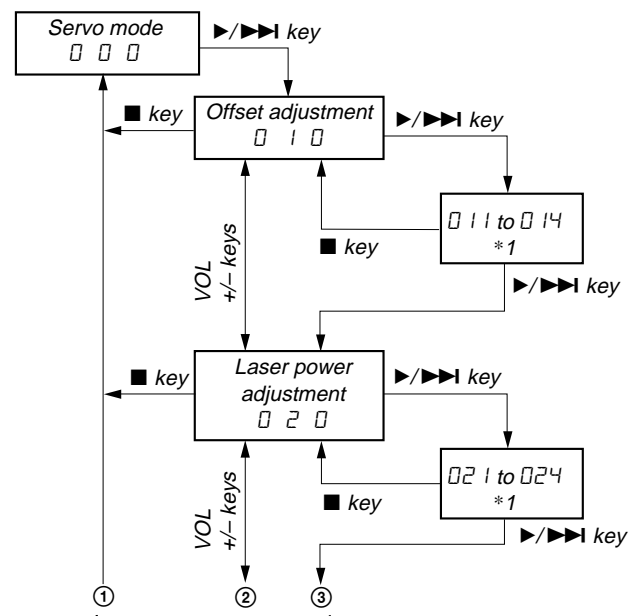


Displays of the LCD on the remote commander are shown in parenthesis.

### Servo Mode

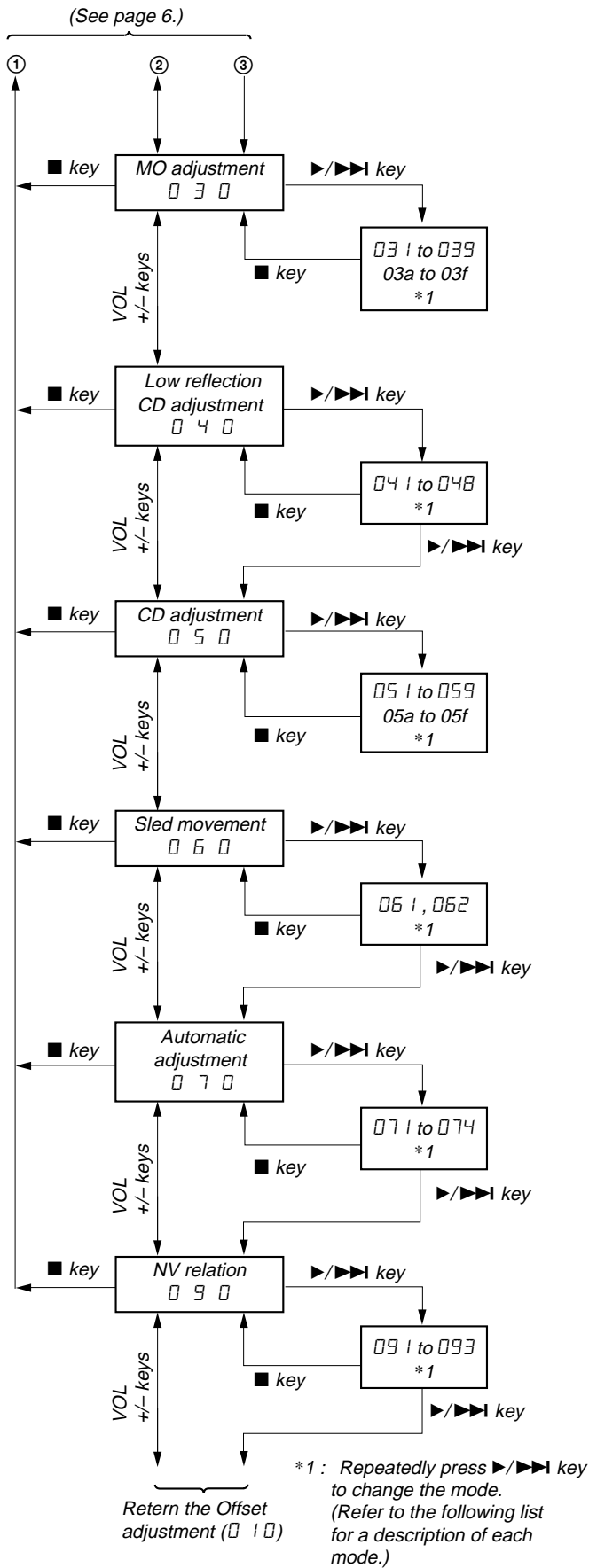
- Set the test mode, press the VOL - key and use the ▶/▶▶▶ key to set the servo mode.
- When the servo mode is set, use the ▶/▶▶▶ key and the ◀◀◀ key on the set to move the optical pick-up to the outer circumference and to the inner circumference respectively.
- When entering another mode, refer to the configuration of test mode.

### 1. Structure of Servo Mode



(See page 7.)

\*1 Repeatedly press ▶/▶▶▶ key to change the mode.  
(Refer to the following list for a description of each mode.)



## 2. Description of Each Mode

0 1 0 Offset adjustment

Mode	Description
0 1 1	VC offset, FE offset, ABCD offset
0 1 2	Not used
0 1 3	Not used
0 1 4	Not used

0 2 0 Laser power adjustment

Mode	Description
0 2 1	MO power (GRV)
0 2 2	MO power (LPIT)
0 2 3	CD power (HPIT)
0 2 4	Not used

0 3 0 MO adjustment

Mode	Description
0 3 1	MO EF balance
0 3 2	MO tracking offset
0 3 3	MO ABCD gain
0 3 4	MO focus gain
0 3 5	MO tracking gain
0 3 6	MO focus bias
0 3 7	_____
0 3 8	_____
0 3 9	_____
(03a)	_____
(03b)	_____
(03c)	_____
(03d)	Not used
(03e)	Not used
(03f)	Not used

0 4 0 Lower reflection CD adjustment

Mode	Description
0 4 1	Lower reflection CD EF balance
0 4 2	Lower reflection CD tracking offset
0 4 3	Lower reflection CD ABCD gain
0 4 4	Lower reflection CD focus gain
0 4 5	Lower reflection CD tracking gain
0 4 6	Lower reflection CD focus bias
0 4 7	_____
0 4 8	Not used

### 050 CD adjustment

Mode	Description
051	CD EF balance
052	CD tracking offset
053	CD ABCD gain
054	CD focus gain
055	CD tracking gain
056	CD focus bias
057	_____
058	_____
059	_____
(05a)	_____
(05b)	_____
(05c)	_____
(05d)	Not used
(05e)	Not used
(05f)	Nor used

### 060 Sled movement

Mode	Description
061	Sled in
062	Sled out

### 070 Automatic adjustment

Mode	Description
071	Focus search
072	Access 32
073	Not used
074	Not used

### 090 NV relation

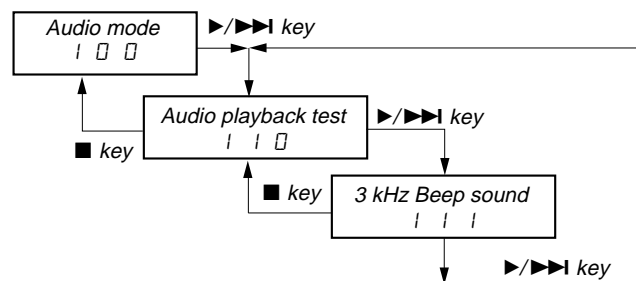
Mode	Description
091	NV clear
092	Power OFF
093	Function code change

**Note:** The parenthesal mode numbers in table are not displayed on the LCD of remote commander.

### Audio Mode

- Enter the test mode and press the VOL – key. Then, press the ►/►► key and the VOL + key in this turn to enter audio mode.
- When entering another mode, refer to the configuration of test mode.

#### 1. Structure of Audio Mode

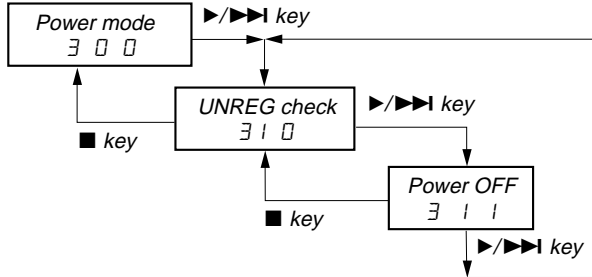




### Power Mode

- Enter the test mode and press the VOL – key. Then, press the ►/►► key and the VOL – key in this turn to enter power mode.
- When entering another mode, refer to the configuration of test mode.

#### 1. Structure of Power Mode

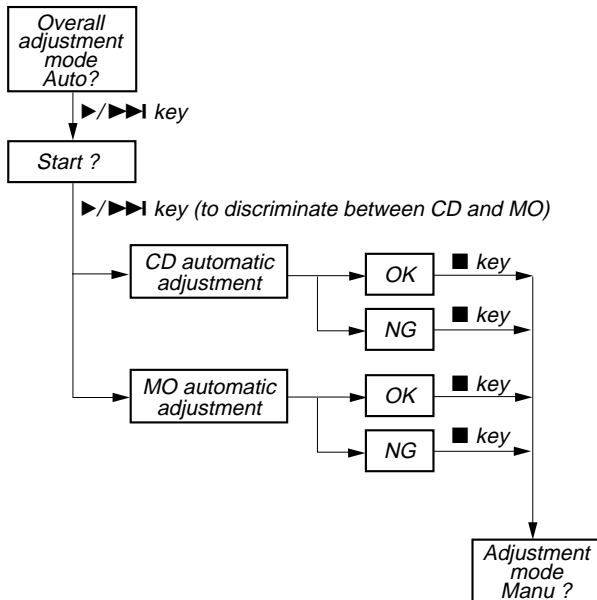


### Overall Adjustment Mode

- Enter the test mode and press the VOL + key to enter overall adjustment mode.
- When entering another mode, refer to the configuration of test mode.
- When the overall adjustment mode is entered, the LCD on the remote commander display the following :



#### 1. Structure of Overall Adjustment Mode



## SECTION 5 ELECTRICAL ADJUSTMENTS

### Notes for Adjustment

- In this set, automatic adjustment of CD and MO can be performed by entering the test mode. (See page 6)
- Adjustments are performed in the overall adjustment mode. If an item is determined as NG, the item is readjusted in servo mode.

### Adjustment Method in Overall Adjustment Mode

1. Enter the test mode and press the VOL + key to enter overall adjustment mode.
2. Insert the CD test disc TDYS-1 (Parts No. 4-963-646-01) or SONY MO disc (recorded) commercially available.
3. Press the ►/►► key. The disc is determined whether it is CD or MO and each adjustment mode is set. Automatic adjustments are performed in the order of the items listed below.

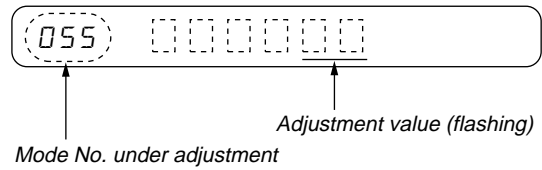
#### • In CD Automatic adjustment Mode

No.	Mode	Description
1	061	Sled in
2	062	Sled out
3	071	Focus search
4	051	CD EF balance
5	053	CD ABCD gain
6	051	CD EF balance
7	052	CD tracking offset
8	054	CD focus gain
9	055	CD tracking gain
10	056	CD focus bias

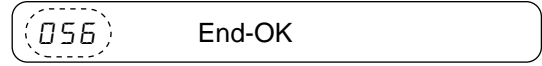
#### • In MO Automatic adjustment Mode

No.	Mode	Description
1	061	Sled in
2	062	Sled out
3	071	Focus search
4	031	MO EF balance
5	033	MO ABCD gain
6	031	MO EF balance
7	032	MO tracking offset
8	034	MO focus gain
9	035	MO tracking gain
10	036	MO focus bias

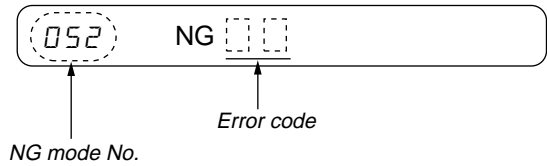
\* Remote commander display during automatic adjustment



4. If result of automatic adjustment is OK, the following display appears.



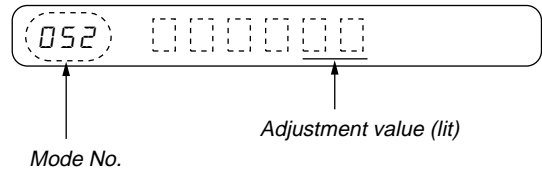
5. If result of automatic adjustment is NG, the following display appears.



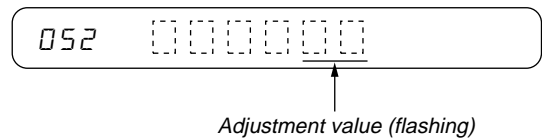
\* If NG, enter servo mode to perform automatic adjustment of the item determined as NG.

### Adjustment in Servo Mode Method

1. When each adjustment mode is set according to the structure of servo mode, the lower two digits of the mode No. and the adjustment value written in EEPROM are displayed and lit on the LCD on the remote commander. (See page 6)

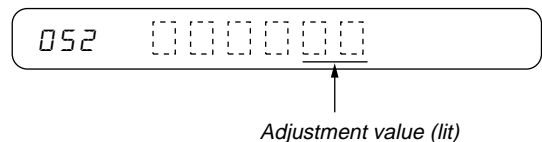


2. When the ■■ key is pressed, the following display appears and the automatic adjustment is performed.



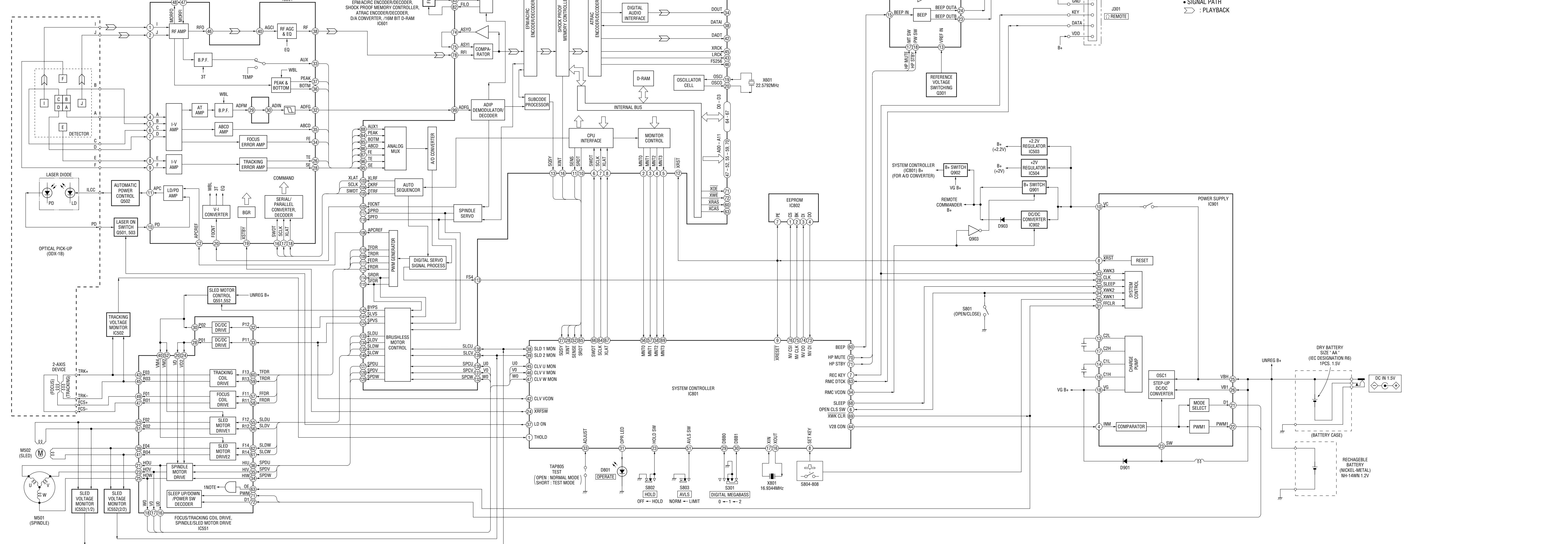
**Note:** Although the VOL +/- keys can be used to change the adjustment value to any value, they should not be used whenever possible.

3. When the automatic adjustment is completed, the flashing adjustment value is lit.



SECTION 6  
DIAGRAMS

6-1. BLOCK DIAGRAM





6-2. PRINTED WIRING BOARDS

Note on Printed Wiring Boards:

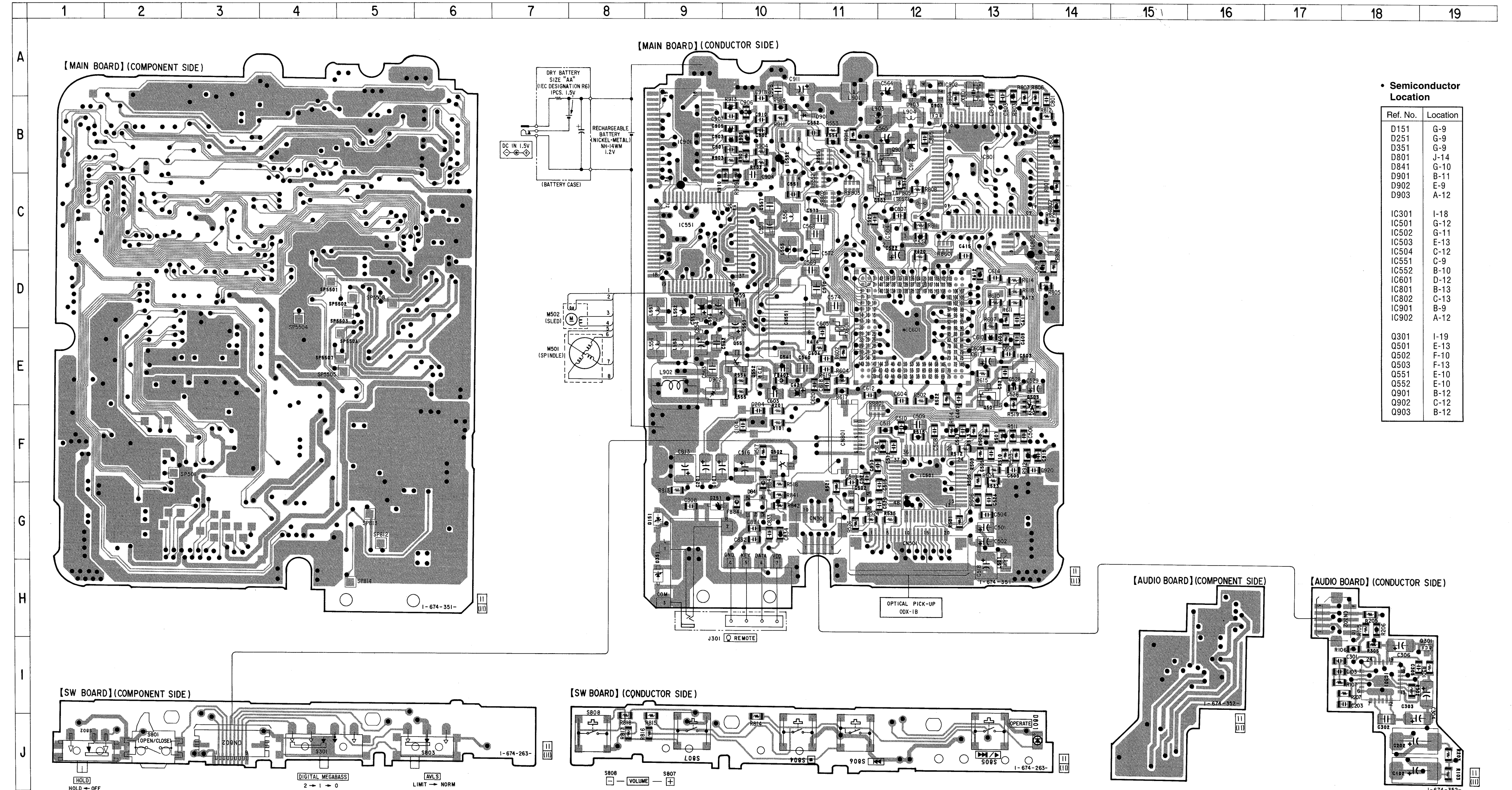
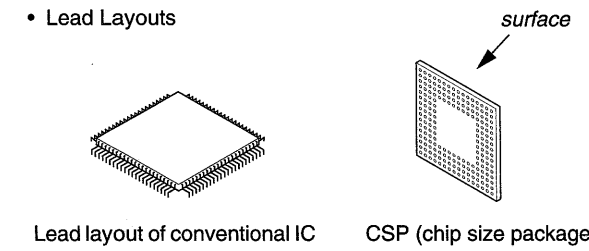
- : parts extracted from the conductor side.
- : Through hole.
- : internal component.
- △ : internal component.
- ▨ : Pattern from the side which enables seeing. (The other layers' patterns are not indicated.)

Caution:  
 Pattern face side: Parts on the pattern face side seen from (Conductor Side) the pattern face are indicated.  
 Parts face side: Parts on the parts face side seen from (Component Side) the parts face are indicated.

- Main board is four-layer printed board. However, the patterns of layers 2 and 3 have not been included in this diagrams.

\* IC601 is not replaceable

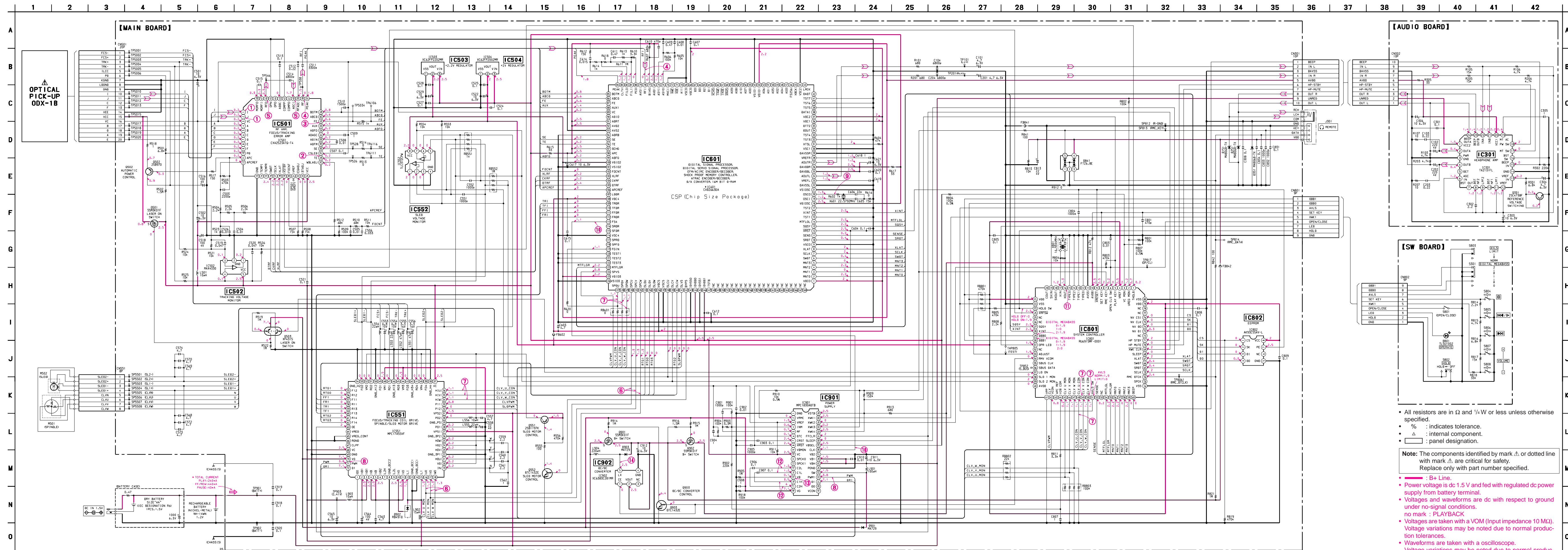
- Lead Layouts



• Semiconductor Location

Ref. No.	Location
D151	G-9
D251	G-9
D351	G-9
D801	J-14
D841	G-10
D901	B-11
D902	E-9
D903	A-12
IC301	I-18
IC501	G-12
IC502	G-11
IC503	E-13
IC504	C-12
IC551	C-9
IC552	B-10
IC601	D-12
IC801	B-13
IC802	C-13
IC901	B-9
IC902	A-12
Q301	I-19
Q501	E-13
Q502	F-10
Q503	F-13
Q551	E-10
Q552	E-10
Q901	B-12
Q902	C-12
Q903	B-12





A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
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O

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O

※ IC601 is not replaceable

• The voltage and waveform of CSP (chip size package) cannot be measured, because its lead layout is different from that of conventional IC.

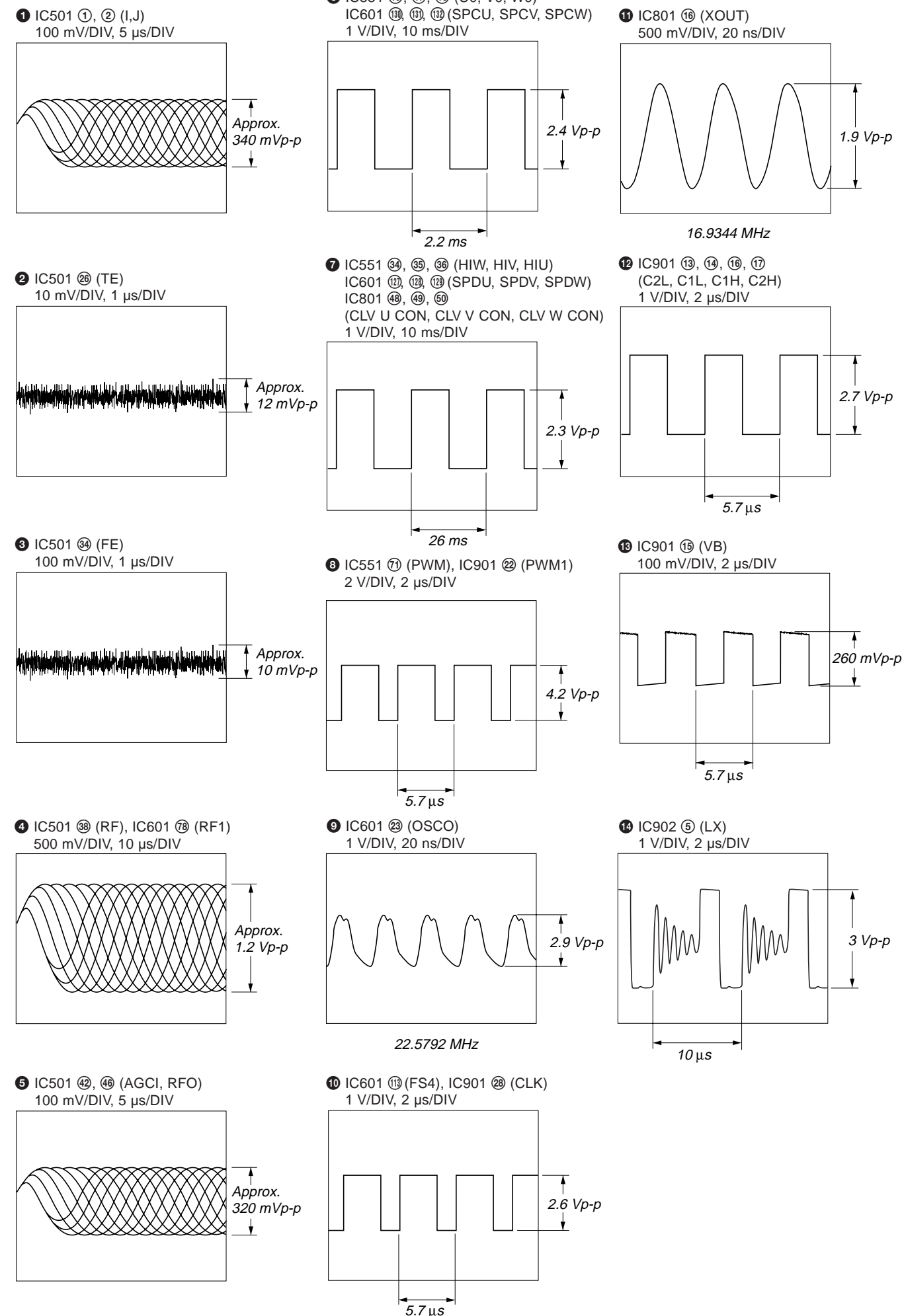
**Note on Schematic Diagram:**  
 • All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.

• All resistors are in Ω and 1/4-W or less unless otherwise specified.  
 • % : indicates tolerance.  
 • Δ : internal component.  
 • □ : panel designation.

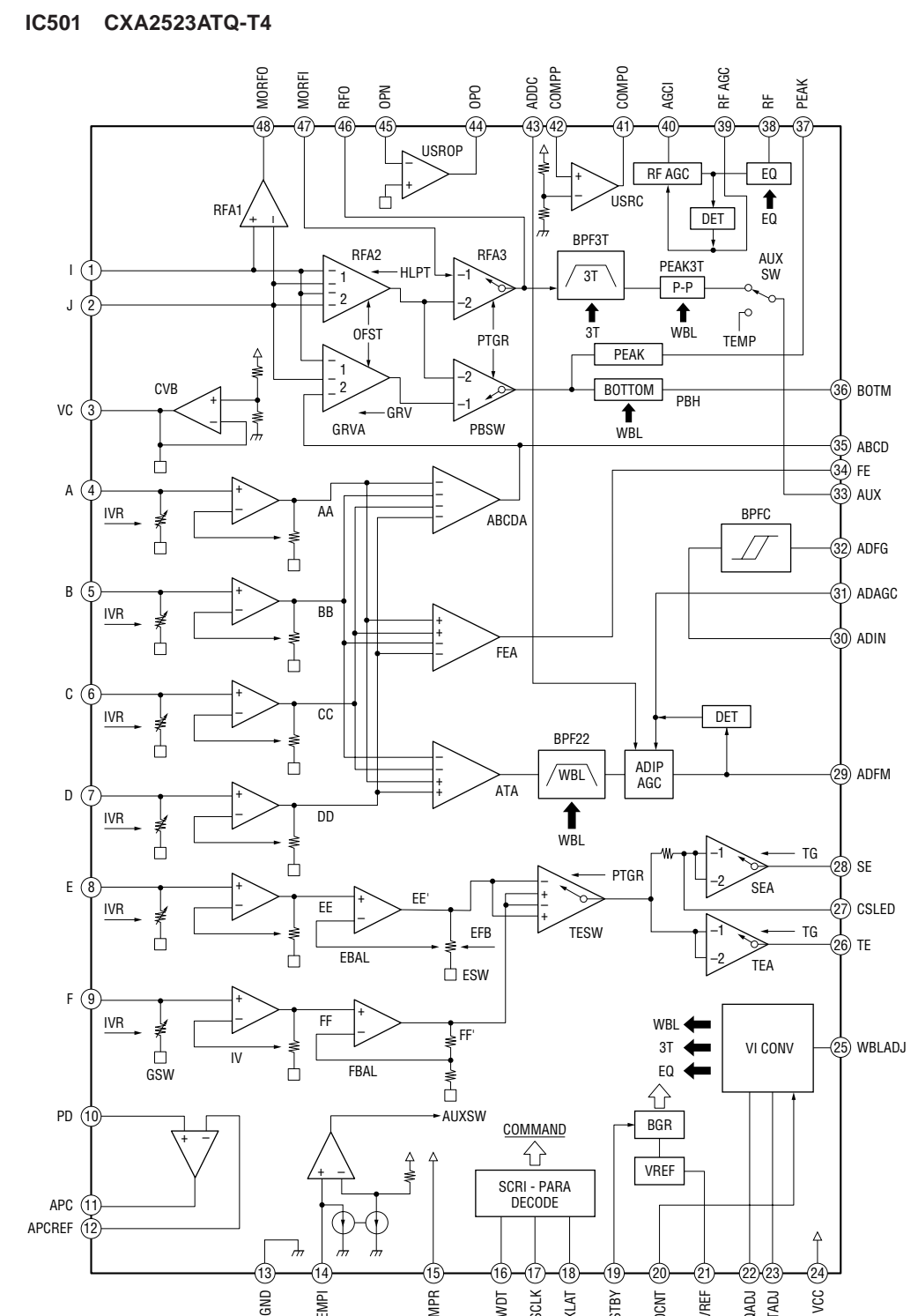
**Note:** The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

- B+ Line.
- Power voltage is dc 1.5 V and fed with regulated dc power supply from battery terminal.
- Voltages and waveforms are dc with respect to ground under no-signal conditions.
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with an oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
- : PLAYBACK

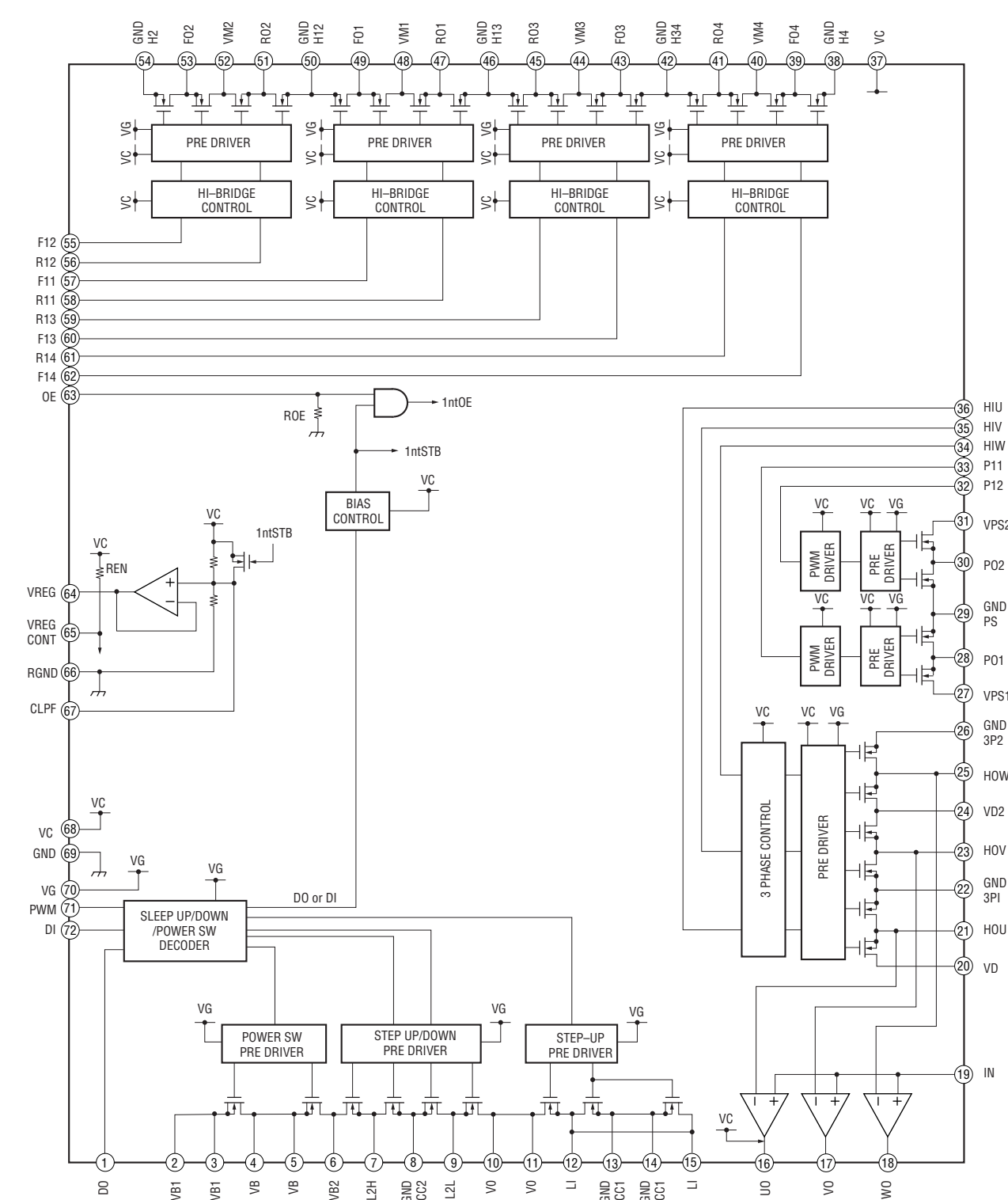
• Waveforms  
- MAIN Board -



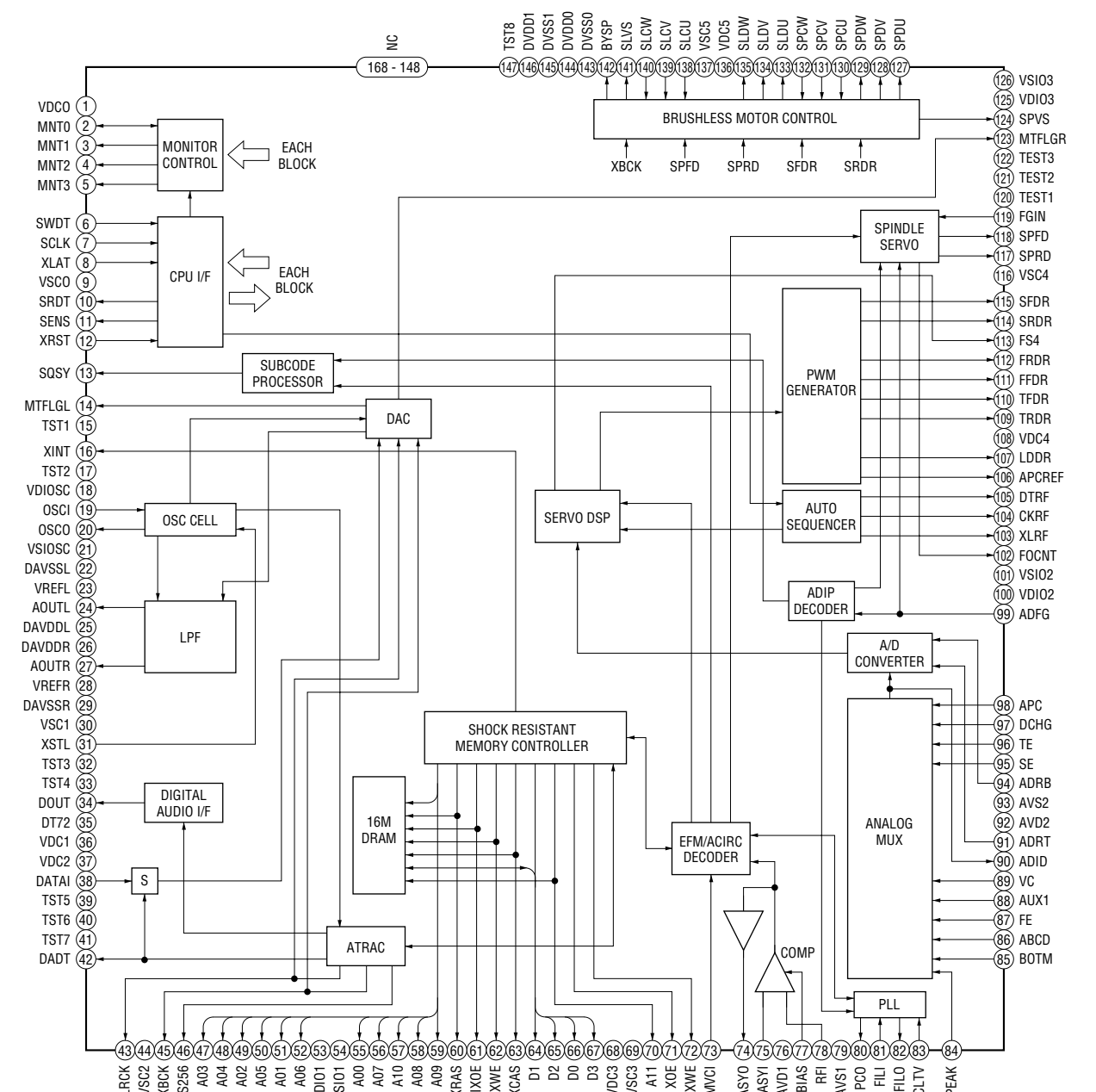
• IC Block Diagrams  
- MAIN Board -



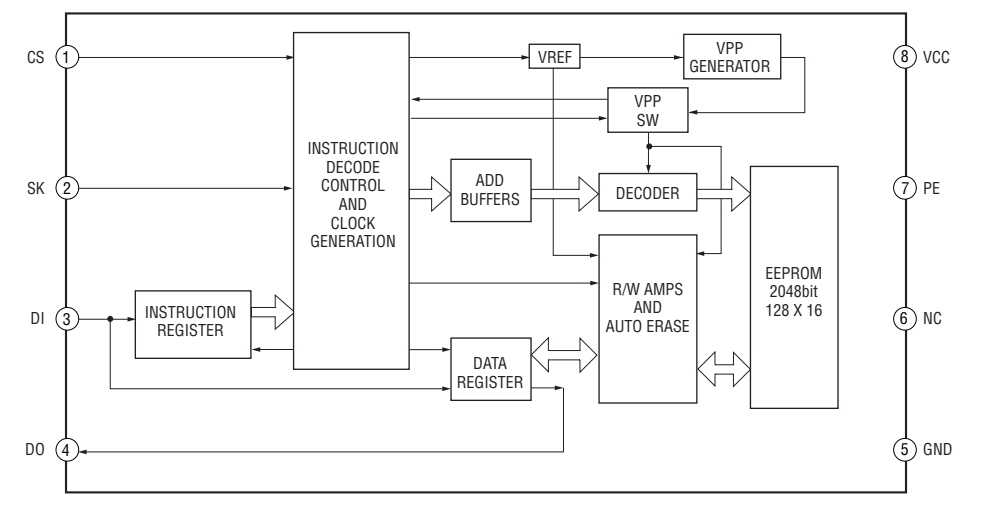
IC551 MPC17A55FTA



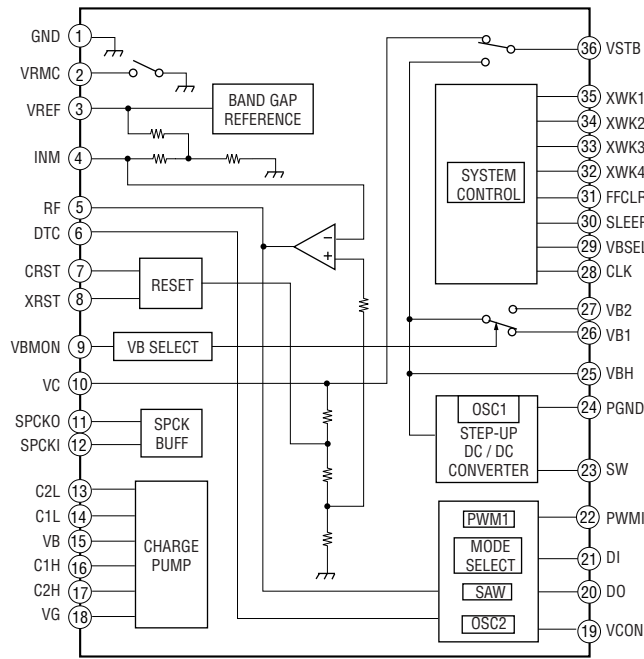
IC601 CXD2663GA



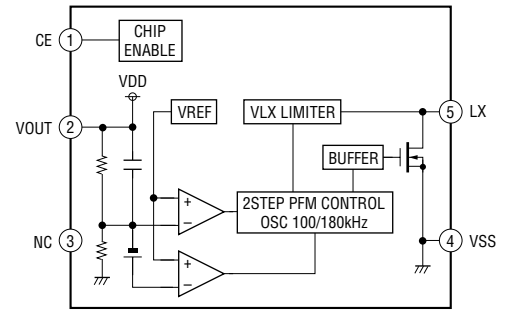
IC802 AK93C55AV-L



**IC901 MPC1830ADTB**

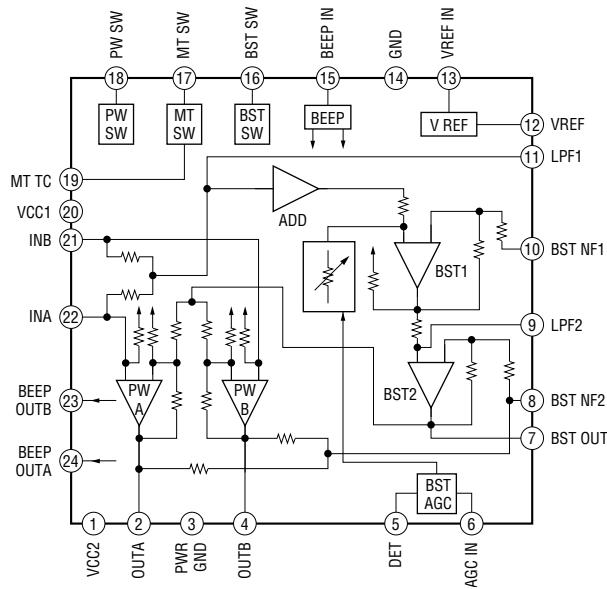


**IC902 XC6383C281MR**



**– AUDIO Board –**

**IC301 TA2131FL (EL)**



#### 6-4. IC PIN FUNCTION DESCRIPTION

##### • MAIN BOARD IC501 CXA2523ATQ-T4 (RF AMP, FOCUS/TRACKING ERROR AMP)

Pin No.	Pin Name	I/O	Description
1	I	I	I-V converted RF signal I input from the optical pick-up block detector
2	J	I	I-V converted RF signal J input from the optical pick-up block detector
3	VC	O	Middle point voltage (+1.2V) generation output terminal
4 to 9	A to F	I	Signal input from the optical pick-up detector (A to F)
10	PD	I	Light amount monitor input from the optical pick-up block laser diode
11	APC	O	Laser amplifier output terminal to the automatic power control circuit
12	APCREF	I	Reference voltage input terminal for setting laser power
13	GND	—	Ground terminal
14	TEMPI	I	Connected to the temperature sensor Not used (open)
15	TEMPR	O	Output terminal for a temperature sensor reference voltage Not used (open)
16	SWDT	I	Writing data input from the CXD2663GA (IC601)
17	SCLK	I	Serial clock signal input from the CXD2663GA (IC601)
18	XLAT	I	Serial latch signal input from the CXD2663GA (IC601)
19	XSTBY	I	Standby control signal input from the system controller (IC801) “L”: standby
20	F0CNT	I	Center frequency control signal input terminal of internal circuit (BPF22, BPF3T, EQ) input from the CXD2663GA (IC601)
21	VREF	O	Reference voltage output terminal Not used (open)
22	EQADJ	I	Center frequency setting terminal for the internal circuit (EQ)
23	3TADJ	I	Center frequency setting terminal for the internal circuit (BPF3T)
24	VCC	—	Power supply terminal (+2.4V)
25	WBLADJ	I	Center frequency setting terminal for the internal circuit (BPF22)
26	TE	O	Tracking error signal output to the CXD2663GA (IC601)
27	CSLED	I	Connected to the capacitor for low-pass filter of the sled error signal
28	SE	O	Sled error signal output to the CXD2663GA (IC601)
29	ADFM	O	FM signal output terminal of the ADIP
30	ADIN	I	Receives a ADIP FM signal in AC coupling
31	ADAGC	I	Connected to the external capacitor for ADIP AGC
32	ADFG	O	ADIP duplex FM signal (22.05 kHz $\pm$ 1 kHz) output to the CXD2663GA (IC601)
33	AUX	O	Auxiliary signal (I <sub>3</sub> signal/temperature signal) output to the CXD2663GA (IC601)
34	FE	O	Focus error signal output to the CXD2663GA (IC601)
35	ABCD	O	Light amount signal output to the CXD2663GA (IC601)
36	BOTM	O	Light amount signal (RF/ABCD) bottom hold output to the CXD2663GA (IC601)
37	PEAK	O	Light amount signal (RF/ABCD) peak hold output to the CXD2663GA (IC601)
38	RF	O	Playback EFM RF signal output to the CXD2663GA (IC601)
39	RFAGC	I	Connected to the external capacitor for RF auto gain control circuit
40	AGCI	I	Receives a RF signal in AC coupling
41	COMPO	O	User comparator output terminal Not used (open)
42	COMPP	I	User comparator input terminal Not used (fixed at “L”)
43	ADDC	I	Connected to the external capacitor for cutting the low band of the ADIP amplifier
44	OPO	O	User operational amplifier output terminal Not used (open)
45	OPN	I	User operational amplifier inversion input terminal Not used (fixed at “L”)
46	RFO	O	RF signal output terminal
47	MORFI	I	Receives a MO RF signal in AC coupling
48	MORFO	O	MO RF signal output terminal



• MAIN BOARD IC601 CXD2663GA

(DIGITAL SIGNAL PROCESSOR, DIGITAL SERVO SIGNAL PROCESSOR, EFM/ACIRC ENCODER/DECODER, SHOCK PROOF MEMORY CONTROLLER, ATRAC ENCODER/DECODER, D/A CONVERTER, 16M BIT D-RAM)

Pin No.	Pin Name	I/O	Description
1	VDCO	—	Power supply terminal (+2V) (for internal logic)
2	MNT0	O	Signal indicating the speed follow-up spinning mode output to the system controller (IC801) “H”: speed follow-up spinning mode
3	MNT1	O	Sled motor operation monitor signal output to the system controller (IC801) “H”: monitor drive
4	MNT2	O	Speed limiter signal output to the system controller (IC801) “L”: limiter on
5	MNT3	O	Window signal to detect an inverse trigger edge output to the system controller (IC801) “H”: edge detectable
6	SWDT	I	Writing data input from the system controller (IC801)
7	SCLK	I	Serial clock signal input from the system controller (IC801)
8	XLAT	I	Serial data latch pulse input from the system controller (IC801)
9	VSCO	—	Ground terminal (for internal logic)
10	SRDT	O	Reading data output to the system controller (IC801)
11	SENS	O	Internal status (SENSE) output to the system controller (IC801)
12	$\overline{\text{XRST}}$	I	System reset signal input from the MPC1830ADTB (IC901) “L”: reset For several hundreds msec. after the power supply rises, “L” is input, then it changes to “H”
13	SQSY	O	Subcode Q sync (SCOR) output the system controller (IC801) “L”: is output every 13.3 msec Almost all, “H” is output
14	MTFLGL	O	Muting applied to analog signal input in non-signal status causes the signal to be “H” automatically Not used
15	TST1	I	Input terminal for the test (fixed at “L”)
16	XINT	O	Interrupt status output to the system controller (IC801)
17	TST2	I	Input terminal for the test (fixed at “L”)
18	VDIOSC	—	Power supply terminal (+2.4V) (for oscillator cell)
19	OSCI	I	System clock (512Fs=22.5792 MHz) input terminal
20	OSCO	O	System clock (512Fs=22.5792 MHz) output terminal
21	VSIOSC	—	Ground terminal (for oscillator cell)
22	DAVSSL	—	Ground terminal (for internal D/A converter L-ch)
23	VREFL	O	Reference voltage output terminal (for internal D/A converter L-ch)
24	AOUTL	O	Playback analog signal (L) output to the headphone amplifier (IC301)
25	DAVDDL	—	Power supply terminal (+2.4V) (for internal D/A converter L-ch)
26	DAVDDR	—	Power supply terminal (+2.4V) (for internal D/A converter R-ch)
27	AOUTR	O	Playback analog signal (R) output to the headphone amplifier (IC301)
28	VREFR	O	Reference voltage output terminal (for internal D/A converter R-ch)
29	DAVSSR	—	Ground terminal (for internal D/A converter R-ch)
30	VSC1	—	Ground terminal (for internal logic)
31	XTSL	I	Input terminal for the system clock frequency setting “L”: 45.1584 MHz, “H”: 22.5792 MHz (fixed at “H” in this set)
32, 33	TST3, TST4	I	Input terminal for the test (normally : fixed at “L”)
34	DOUT	O	Digital audio signal output terminal when playback mode Not used (open)
35	DT72	O	Not used (open)
36, 37	VDC1, VDC2	—	Power supply terminal (+2V) (for internal logic)
38	DATAI	I	Input terminal of external audio data to the internal D/A converter Not used (open)
39 to 41	TST5 to TST7	I	Input terminal for the test (normally : fixed at “L”)
42	DADT	O	Playback data signal output to the external D/A converter Not used (open)

Pin No.	Pin Name	I/O	Description
43	LRCK	O	L/R sampling clock signal (44.1 kHz) output to the external D/A converter Not used (open)
44	VSC2	—	Ground terminal (for internal logic)
45	XBCK	O	Bit clock signal (2.8224 MHz) output to the external D/A converter Not used (open)
46	FS256	O	Clock signal (11.2896 MHz) output to the external D/A converter Not used (open)
47 to 52	A03, A04, A02, A05, A01, A06	O	Address signal output to the external D-RAM Not used (open)
53	VDIO1	—	Power supply terminal (+2.2V) (for I/O cell)
54	VSIO1	—	Ground terminal (for I/O cell)
55 to 59	A00, A07, A10, A08, A09	O	Address signal output to the external D-RAM Not used (open)
60	$\overline{\text{XRAS}}$	O	Row address strobe signal output to the external D-RAM “L” active Not used (open)
61	$\overline{\text{IXOE}}$	O	Output enable signal output terminal “L” active Not used (open)
62	$\overline{\text{IXWE}}$	O	Data write enable signal output terminal “L” active Not used (open)
63	$\overline{\text{XCAS}}$	O	Column address strobe signal output to the external D-RAM “L” active Not used (open)
64 to 67	D1, D2, D0, D3	I/O	Two-way data bus with the external D-RAM Not used (open)
68	VDC3	—	Power supply terminal (+2V) (for internal logic)
69	VSC3	—	Ground terminal (for internal logic)
70	A11	O	Address signal output to the external D-RAM Not used (open)
71	$\overline{\text{XOE}}$	O	Output enable signal output to the external D-RAM “L” active Not used (open)
72	$\overline{\text{XWE}}$	O	Data write enable signal output to the external D-RAM “L” active Not used (open)
73	MVCI	I	Digital in PLL oscillation input from the external VCO Not used (fixed at “L”)
74	ASYO	O	Playback EFM full-swing output terminal
75	ASYI	I	Playback EFM asymmetry comparator voltage input terminal
76	AVD1	—	Power supply terminal (+2.4V) (analog system)
77	BIAS	I	Playback EFM asymmetry circuit constant current input terminal
78	RFI	I	Playback EFM RF signal input from the CXA2523ATQ (IC501)
79	AVS1	—	Ground terminal (analog system)
80	PCO	O	Phase comparison output for master clock of the recording/playback FEM master PLL
81	FILI	I	Filter input for master clock of the recording/playback EFM master PLL
82	FILO	O	Filter output for master clock of the recording/playback EFM master PLL
83	CLTV	I	Internal VCO control voltage input of the recording/playback EFM master PLL
84	PEAK	I	Light amount signal (RF/ABCD) peak hold input from the CXA2523ATQ (IC501)
85	BOTM	I	Light amount signal (RF/ABCD) bottom hold input from the CXA2523ATQ (IC501)
86	ABCD	I	Light amount signal input from the CXA2523ATQ (IC501)
87	FE	I	Focus error signal input from the CXA2523ATQ (IC501)
88	AUX1	I	Auxiliary signal (I <sub>3</sub> signal/temperature signal) input from the CXA2523ATQ (IC501)
89	VC	I	Middle point voltage (+1.2V) input terminal
90	ADIO	O	Monitor output of the A/D converter input signal Not used (open)
91	ADRT	I	A/D converter operational range upper limit voltage input terminal (fixed at “H” in this set)
92	AVD2	—	Power supply terminal (+2.4V) (analog system)
93	AVS2	—	Ground terminal (analog system)
94	ADRB	I	A/D converter operational range lower limit voltage input terminal (fixed at “L” in this set)
95	SE	I	Sled error signal input from the CXA2523ATQ (IC501)
96	TE	I	Tracking error signal input from the CXA2523ATQ (IC501)
97	DCHG	I	Connected to the +2.4V power supply
98	APC	I	Error signal input for the laser automatic power control Not used (fixed at “H”)

Pin No.	Pin Name	I/O	Description
99	ADFG	I	ADIP duplex FM signal (22.05 kHz $\pm$ 1 kHz) input from the CXA2523ATQ (IC501)
100	VDIO2	—	Power supply terminal (+2.2V) (for I/O cell)
101	VSI02	—	Ground terminal (for I/O cell)
102	F0CNT	O	Center frequency control signal output terminal of internal circuit (BPF22, BPF3T, EQ) output to the CXA2523ATQ (IC501)
103	XLRF	O	Serial latch signal output to the CXA2523ATQ (IC501)
104	CKRF	O	Serial clock signal output to the CXA2523ATQ (IC501)
105	DTRF	O	Writing data output to the CXA2523ATQ (IC501)
106	APCREF	O	Control signal output to the reference voltage generator circuit for the laser automatic power control
107	LDDR	O	PWM signal output for the laser automatic power control Not used (open)
108	VDC4	—	Power supply terminal (+2V) (for internal logic)
109	TRDR	O	Tracking servo drive PWM signal (–) output to the MPC17A55VF (IC551)
110	TFDR	O	Tracking servo drive PWM signal (+) output to the MPC17A55VF (IC551)
111	FFDR	O	Focus servo drive PWM signal (+) output to the MPC17A55VF (IC551)
112	FRDR	O	Focus servo drive PWM signal (–) output to the MPC17A55VF (IC551)
113	FS4	O	Clock signal (176.4 kHz) output to the MPC1830ADTB (IC901) (X' tal system)
114	SRDR	O	Sled servo drive PWM signal (–) output terminal Not used (open)
115	SFDR	O	Sled servo drive PWM signal (+) output terminal Not used (open)
116	VSC4	—	Ground terminal (for internal logic)
117	SPRD	O	Spindle servo drive PWM signal (–) output terminal Not used (open)
118	SPFD	O	Spindle servo drive PWM signal (+) output terminal Not used (open)
119	FGIN	I	FG signal input terminal for spindle servo
120 to 122	TEST1 to TEST3	I	Input terminal for the test (normally : fixed at “L”)
123	MTFLGR	O	Muting applied to analog signal input in non-signal status causes the signal to be “H” automatically Not used
124	SPVS	O	Spindle servo drive voltage control signal output to the MPC17A55VF (IC551)
125	VDI03	—	Power supply terminal (+2.2V) (for I/O cell)
126	VSI03	—	Ground terminal (for I/O cell)
127	SPDU	O	Spindle servo (U) drive signal output to the MPC17A55VF (IC551)
128	SPDV	O	Spindle servo (V) drive signal output to the MPC17A55VF (IC551)
129	SPDW	O	Spindle servo (W) drive signal output to the MPC17A55VF (IC551)
130	SPCU	I	Spindle servo (U) timing signal input from the MPC17A55VF (IC551)
131	SPCV	I	Spindle servo (V) timing signal input from the MPC17A55VF (IC551)
132	SPCW	I	Spindle servo (W) timing signal input from the MPC17A55VF (IC551)
133	SLDU	O	Sled servo (U) drive signal output to the MPC17A55VF (IC551)
134	SLDV	O	Sled servo (V) drive signal output to the MPC17A55VF (IC551)
135	SLDW	O	Sled servo (W) drive signal output to the MPC17A55VF (IC551)
136	VDC5	—	Power supply terminal (+2V) (for internal logic)
137	VSC5	—	Ground terminal (for internal logic)
138	SLCU	I	Sled servo (U) timing signal input from the MPC17A55VF (IC551)
139	SLCV	I	Sled servo (V) timing signal input from the MPC17A55VF (IC551)
140	SLCW	I	Sled servo (W) timing signal input from the MPC17A55VF (IC551)
141	SLVS	O	Sled servo voltage control signal output to the MPC17A55VF (IC551)
142	BYPS	O	By-pass transistor control signal output terminal for the sled drive power supply
143	DVSS0	—	Ground terminal (for internal 16M bit D-RAM)

Pin No.	Pin Name	I/O	Description
144	DVDD0	—	Power supply terminal (+2.4V) (for internal 16M bit D-RAM)
145	DVSS1	—	Ground terminal (for internal 16M bit D-RAM)
146	DVDD1	—	Power supply terminal (+2.4V) (for internal 16M bit D-RAM)
147	TST8	I	Input terminal for the test Not used (open)
148 to 168	NC	—	Not used (open)

• MAIN BOARD IC801 RU6915MF-0001 (SYSTEM CONTROLLER)

Pin No.	Pin Name	I/O	Description
1	THOLD	I	Two shaft device tracking coil-end voltage monitor input terminal (A/D input)
2	UREG MON	I	Un-regulator power supply voltage monitor input terminal (A/D input)
3	VC MON	I	VC (middle point voltage) power supply voltage monitor input terminal (A/D input)
4	VREF	I	Input terminal for power supply voltage adjustment reference voltage (+2V) (A/D input)
5	PLAY KEY	I	Not used (fixed at "H")
6	OPEN CLS SW	I	Upper panel open/close detect switch (S801) input terminal (A/D input) "L": upper panel close, "H": upper panel open
7	RMC KEY	I	Remote commander with headphone key input terminal (A/D input)
8	SET KEY	I	Set key input terminal (A/D input) S804 to S808 (■, ►►I/►, ◀◀I, +/-VOLUME keys input)
9	$\overline{\text{XRESET}}$	I	System reset signal input from the MPC1830ADTB (IC901) "L": reset For several hundreds msec. after the power supply rises, "L" is input, then it changes to "H"
10	AVDD	—	Power supply terminal (+2.4V) (for A/D converter)
11	AVSS	—	Ground terminal (for A/D converter)
12 to 15	TYPE0 to TYPE3	I	Setting terminal for model discrimination (bit0 to bit3) Fixed at "L" in this set
16	XOUT	O	Main system clock output terminal (16.9344 MHz)
17	XIN	I	Main system clock input terminal (16.9344 MHz)
18	SXOUT	O	Sub system clock output terminal Not used (open)
19	SXIN	I	Sub system clock input terminal Not used (fixed at "L")
20	COUT	O	Not used (open)
21	VDD	—	Power supply terminal (+2V) (digital system)
22	VSS	—	Ground terminal (digital system)
23	HOLD SW	I	HOLD switch (S802) input terminal "L": hold off, "H": hold on
24	$\overline{\text{XRFSW}}$	O	Standby control signal output to the CXA2523ATQ (IC501) "L": standby
25, 26	NC	—	Not used (open)
27	SQSY	I	Subcode Q sync (SCOR) input from the CXD2663GA (IC601) "L" is input every 13.3 msec Almost all, "H" is input
28	XINT	I	Interrupt status input from the CXD2663GA (IC601)
29, 30	DBB0, DBB1	I	DIGITAL MEGABASS switch (S301) input terminal *1
31	OPR LED	O	OPERATE LED (D801) drive signal output terminal "H": LED on
32	NC	—	Not used (open)
33	ADJUST	I	Setting terminal for the test mode "L": test mode, Normally: fixed at "H"
34	RMC VCON	O	Remote commander power supply voltage select signal output to the DC/DC converter circuit
35	SBUS CLK	O	SBB serial clock signal output terminal Not used (open)
36	SBUS DATA	I/O	SBB serial data input/output terminal Not used (open)
37	LD ON	O	Laser diode on/off control signal output to the automatic power control circuit "L": laser off, "H": laser on
38	SLD 1 MON	I	Sled servo timing signal input from the MPC17A55VF (IC551)
39	SLD 2 MON	I	Sled servo timing signal input from the MPC17A55VF (IC551)
40	AVDD	—	Power supply terminal (analog system) Not used (open)
41	VPP	—	Test terminal (fixed at "L")
42	CLV VCON	O	Spindle servo drive voltage control signal output to the MPC17A55VF (IC551)
43	APC REF	O	Laser power control signal output terminal Not used (open)
44	V28 CON	O	Power supply voltage adjustment PWM signal output to the MPC1830ADTB (IC901)
45	CLV U MON	I	Spindle servo (U) timing signal input from the MPC17A55VF (IC551)

Pin No.	Pin Name	I/O	Description
46	CLV V MON	I	Spindle servo (V) timing signal input from the MPC17A55VF (IC551)
47	CLV W MON	I	Spindle servo (W) timing signal input from the MPC17A55VF (IC551)
48	CLV U CON	I	Spindle servo (U) drive signal input from the MPC17A55VF (IC551) Not used
49	CLV V CON	I	Spindle servo (V) drive signal input from the MPC17A55VF (IC551) Not used
50	CLV W CON	I	Spindle servo (W) drive signal input from the MPC17A55VF (IC551) Not used
51	AVLS SW	I	AVLS switch (S803) input terminal “L”: LIMIT, “H”: NORM
52	SENSE	I	Internal status (SENSE) input from the CXD2663GA (IC601)
53	NC	—	Not used (open)
54	MTFLGL	I	Muting applied to analog signal output in non-signal status causes the signal to be “H” automatically Not used
55	MTFLGR	I	Muting applied to analog signal output in non-signal status causes the signal to be “H” automatically Not used
56	MNT0	I	Signal indicating the speed follow-up spinning mode input from the CXD2663GA (IC601) “H”: speed follow-up spinning mode
57	MNT1	I	Sled motor operation monitor signal input from the the CXD2663GA (IC601) “H”: monitor drive
58	MNT2	I	Speed limiter signal input from the the CXD2663GA (IC601) “L”: limiter on
59	MNT3	I	Window signal to detect an inverse trigger edge input from the the CXD2663GA (IC601) “H”: edge detectable
60	BEEP	O	Beep sound drive signal output to the headphone amplifier (IC301)
61	VSS	—	Ground terminal (digital system)
62	SPCK	O	Not used (open)
63	RMC DTCK	I/O	TSB serial communication data input/output terminal for remote commander with headphone
64	SCLK	O	Serial clock signal output to the CXD2663GA (IC601)
65	SRDT	I	Reading data input from the CXD2663GA (IC601)
66	SWDT	O	Writing data output to the CXD2663GA (IC601)
67	XLAT	O	Serial data latch pulse output to the CXD2663GA (IC601)
68	SLEEP	O	System sleep control signal output to the MPC1830ADTB (IC901) “H”: sleep on
69	$\overline{\text{XWK CLR}}$	O	Wauk up factor clear signl output to the MPC17A55VF (IC551) and MPC1830ADTB (IC901) “L” active
70	HP MUTE	O	Muting on/off control signal output to the headphone amplifier (IC301) “H”: muting on
71	HP STBY	O	Standby on/off control signal output to the headphone amplifier (IC301) “L”: standby mode, “H”: amplifier on
72	NC	—	Not used (open)
73	NV DI	I	Serial data input from the EEPROM (IC802)
74	NV DO	O	Serial data output to the EEPROM (IC802)
75	NV CLK	O	Serial clock signal output to the EEPROM (IC802)
76	NV CS1	O	Chip select signal output to the EEPROM (IC802)
77, 78	NC	—	Not used (open)
79	VDD	—	Power supply terminal (+2V) (digital system)
80	VSS	—	Ground terminal (digital system)

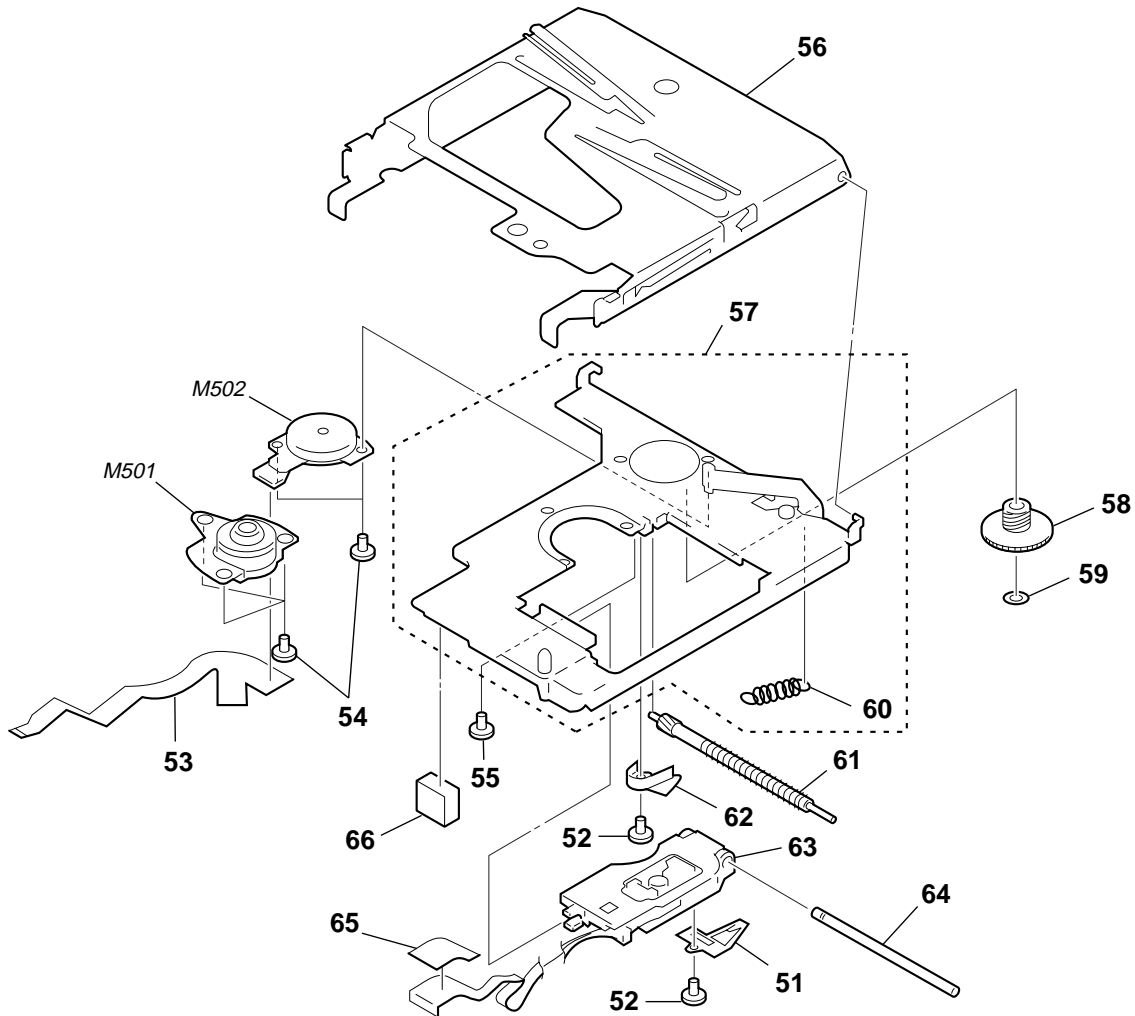
\*1 DIGITAL MEGABASS switch (S301)

Terminal	Switch		
	0 (OFF)	1 (MID)	2 (MAX)
DBB0 (pin ㉙)	“H”	“L”	“H”
DBB1 (pin ㉚)	“H”	“H”	“L”





(2) MECHANISM DECK SECTION  
(MT-MZE55-150)



The components identified by mark  $\Delta$  or dotted line with mark  $\Delta$  are critical for safety.  
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
51	4-982-561-11	SPRING, RACK		60	4-986-811-01	SPRING (EJECT), TENSION	
52	4-963-883-61	SCREW (M1.4), PRECISION PAN		61	X-4948-793-1	LEAD ASSY	
53	1-670-707-11	CLV FLEXIBLE BOARD		62	4-212-899-01	SPRING, THRUST	
54	4-963-883-21	SCREW (M1.4), PRECISION PAN		$\Delta$ 63	X-4949-164-1	OPTICAL PICK-UP ASSY (ODX-1B)	
55	3-349-825-82	SCREW, PRECISION		64	4-214-478-01	SHAFT, MAIN	
56	4-212-896-01	HOLDER		65	4-214-207-01	SHEET (OP)	
57	X-4950-414-1	CHASSIS ASSY		66	4-222-799-01	SPACER (OP FLEXIBLE)	
58	4-982-555-01	GEAR (A)		M501	8-835-594-02	MOTOR, DC SSM-01C03A/C-N (SPINDLE)	
59	4-965-893-01	WASHER, GEAR (A) STOPPER		M502	1-698-764-21	MOTOR, SLED (SLED)	



# SECTION 8 ELECTRICAL PARTS LIST

<b>AUDIO</b>	<b>MAIN</b>
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**NOTE:**

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- **RESISTORS**  
All resistors are in ohms.  
METAL: Metal-film resistor.  
METAL OXIDE: Metal oxide-film resistor.  
F: nonflammable

- Items marked “\*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- **SEMICONDUCTORS**  
In each case, u:  $\mu$ , for example:  
uA. . . :  $\mu$ A. . .      uPA. . . :  $\mu$ PA. . .  
uPB. . . :  $\mu$ PB. . .      uPC. . . :  $\mu$ PC. . .  
uPD. . . :  $\mu$ PD. . .
- **CAPACITORS**  
uF:  $\mu$ F
- **COILS**  
uH:  $\mu$ H

The components identified by mark  $\Delta$  or dotted line with mark  $\Delta$  are critical for safety. Replace only with part number specified.

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
	A-3322-068-A	AUDIO BOARD, COMPLETE *****				< CAPACITOR >	
		< CAPACITOR >					
C102	1-125-899-11	TANTALUM CHIP	220uF 20% 4V	C101	1-109-935-11	TANTALUM CHIP	4.7uF 20% 6.3V
C103	1-115-467-11	CERAMIC CHIP	0.22uF 10% 10V	C104	1-162-969-11	CERAMIC CHIP	0.0068uF 10% 25V
C202	1-125-899-11	TANTALUM CHIP	220uF 20% 4V	C201	1-109-935-11	TANTALUM CHIP	4.7uF 20% 6.3V
C203	1-115-467-11	CERAMIC CHIP	0.22uF 10% 10V	C204	1-162-969-11	CERAMIC CHIP	0.0068uF 10% 25V
C301	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V	C308	1-164-156-11	CERAMIC CHIP	0.1uF 25V
C302	1-125-838-11	CERAMIC CHIP	2.2uF 10% 6.3V	C501	1-117-919-11	TANTALUM CHIP	10uF 20% 6.3V
C303	1-135-259-11	TANTALUM CHIP	10uF 20% 6.3V	C502	1-117-919-11	TANTALUM CHIP	10uF 20% 6.3V
C304	1-109-935-11	TANTALUM CHIP	4.7uF 20% 6.3V	C503	1-162-966-11	CERAMIC CHIP	0.0022uF 10% 50V
C305	1-125-837-91	CERAMIC CHIP	1uF 10% 6.3V	C504	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V
C306	1-135-259-11	TANTALUM CHIP	10uF 20% 6.3V	C505	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V
		< CONNECTOR >		C506	1-164-677-11	CERAMIC CHIP	0.033uF 10% 16V
* CN302	1-750-281-31	CONNECTOR, BOARD TO BOARD 10P		C507	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V
		< IC >		C508	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V
IC301	8-759-598-15	IC TA2131FL (EL)		C509	1-109-982-11	CERAMIC CHIP	1uF 10% 10V
		< TRANSISTOR >		C510	1-162-965-11	CERAMIC CHIP	0.0015uF 10% 50V
Q301	8-729-037-52	TRANSISTOR 2SD2216J-QR (TX).SO		C511	1-162-967-11	CERAMIC CHIP	0.0033uF 10% 50V
		< RESISTOR >		C512	1-115-467-11	CERAMIC CHIP	0.22uF 10% 10V
R103	1-216-829-11	METAL CHIP	4.7K 5% 1/16W	C513	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V
R105	1-216-835-11	METAL CHIP	15K 5% 1/16W	C514	1-162-969-11	CERAMIC CHIP	0.0068uF 10% 25V
R106	1-216-829-11	METAL CHIP	4.7K 5% 1/16W	C515	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V
R107	1-216-797-11	METAL CHIP	10 5% 1/16W	C516	1-127-569-11	TANTALUM CHIP	100uF 20% 4V
R203	1-216-829-11	METAL CHIP	4.7K 5% 1/16W	C518	1-127-569-11	TANTALUM CHIP	100uF 20% 4V
R205	1-216-835-11	METAL CHIP	15K 5% 1/16W	C519	1-165-176-11	CERAMIC CHIP	0.047uF 10% 16V
R206	1-216-829-11	METAL CHIP	4.7K 5% 1/16W	C520	1-165-176-11	CERAMIC CHIP	0.047uF 10% 16V
R207	1-216-797-11	METAL CHIP	10 5% 1/16W	C521	1-164-156-11	CERAMIC CHIP	0.1uF 25V
R301	1-216-831-11	METAL CHIP	6.8K 5% 1/16W	C522	1-117-919-11	TANTALUM CHIP	10uF 20% 6.3V
R302	1-216-849-11	METAL CHIP	220K 5% 1/16W	C524	1-164-156-11	CERAMIC CHIP	0.1uF 25V
R305	1-216-803-11	METAL CHIP	33 5% 1/16W	C525	1-164-156-11	CERAMIC CHIP	0.1uF 25V
		*****		C526	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V
	A-3323-244-A	MAIN BOARD, COMPLETE *****		C527	1-164-156-11	CERAMIC CHIP	0.1uF 25V
	4-219-844-01	TERMINAL		C528	1-164-156-11	CERAMIC CHIP	0.1uF 25V
				C529	1-117-919-11	TANTALUM CHIP	10uF 20% 6.3V
				C551	1-162-964-11	CERAMIC CHIP	0.001uF 10% 50V
				C552	1-162-964-11	CERAMIC CHIP	0.001uF 10% 50V
				C553	1-135-238-21	TANTALUM CHIP	6.8uF 20% 10V
				C554	1-135-238-21	TANTALUM CHIP	6.8uF 20% 10V
				C555	1-107-765-11	TANTALUM CHIP	3.3uF 20% 16V
				C556	1-107-765-11	TANTALUM CHIP	3.3uF 20% 16V
				C557	1-117-720-11	CERAMIC CHIP	4.7uF 10V
				C558	1-127-895-11	TANTALUM CHIP	22uF 20% 4V
				C559	1-125-838-11	CERAMIC CHIP	2.2uF 10% 6.3V
				C560	1-125-838-11	CERAMIC CHIP	2.2uF 10% 6.3V

# MAIN

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
C561	1-125-838-11	CERAMIC CHIP 2.2uF	10% 6.3V	* CN501	1-778-168-11	CONNECTOR, FFC/FPC (ZIF) 20P	
C562	1-109-982-11	CERAMIC CHIP 1uF	10% 10V	* CN551	1-793-124-21	CONNECTOR, FPC (ZIP) 8P	
C563	1-117-720-11	CERAMIC CHIP 4.7uF	10V	* CN801	1-793-327-21	CONNECTOR, FPC	
C564	1-127-569-11	TANTALUM CHIP 100uF	20% 4V			< DIODE >	
C565	1-135-259-11	TANTALUM CHIP 10uF	20% 6.3V	D151	8-719-017-58	DIODE MA8068	
C568	1-127-760-11	CAPACITOR 4.7uF	10% 6.3V	D251	8-719-017-58	DIODE MA8068	
C569	1-127-760-11	CAPACITOR 4.7uF	10% 6.3V	D351	8-719-017-58	DIODE MA8068	
C570	1-127-760-11	CAPACITOR 4.7uF	10% 6.3V	D841	8-719-066-17	DIODE FTZ6.8E-T148	
C572	1-127-760-11	CAPACITOR 4.7uF	10% 6.3V	D901	8-719-420-51	DIODE MA729	
C573	1-127-760-11	CAPACITOR 4.7uF	10% 6.3V	D902	8-719-066-16	DIODE RB491D-T146	
C574	1-127-760-11	CAPACITOR 4.7uF	10% 6.3V	D903	8-719-420-51	DIODE MA729	
C603	1-117-720-11	CERAMIC CHIP 4.7uF	10V			< FERRITE BEAD >	
C604	1-164-156-11	CERAMIC CHIP 0.1uF	25V	FB602	1-414-227-11	FERRITE BEAD INDUCTOR CHIP	0uH
C605	1-162-917-11	CERAMIC CHIP 15PF	5% 50V	FB841	1-414-228-11	FERRITE BEAD INDUCTOR CHIP	0uH
C606	1-162-919-11	CERAMIC CHIP 22PF	5% 50V	FB842	1-414-228-11	FERRITE BEAD INDUCTOR CHIP	0uH
C607	1-164-156-11	CERAMIC CHIP 0.1uF	25V			< IC >	
C608	1-162-970-11	CERAMIC CHIP 0.01uF	10% 25V	IC501	8-752-093-82	IC CXA2523ATQ-T4	
C609	1-125-891-11	CERAMIC CHIP 0.47uF	10% 10V	IC502	8-759-581-57	IC MAX4330EUK-TG069	
C610	1-162-962-11	CERAMIC CHIP 470PF	10% 50V	IC503	8-759-599-61	IC XC62FP2202MR	
C611	1-125-891-11	CERAMIC CHIP 0.47uF	10% 10V	IC504	8-759-488-26	IC XC62FP2002MR	
C612	1-164-156-11	CERAMIC CHIP 0.1uF	25V	IC551	8-759-390-25	IC MPC17A55FTA	
C614	1-164-245-11	CERAMIC CHIP 0.015uF	10% 25V	IC552	8-759-358-40	IC TLC372CPW-E20	
C615	1-164-156-11	CERAMIC CHIP 0.1uF	25V	<input checked="" type="checkbox"/> IC601	—	IC CXD2663GA	
C617	1-117-919-11	TANTALUM CHIP 10uF	20% 6.3V	IC801	8-759-596-10	IC RU6915MF-0001	
C618	1-115-156-11	CERAMIC CHIP 1uF	10V	IC802	8-759-449-23	IC AK93C55AV-L	
C619	1-115-156-11	CERAMIC CHIP 1uF	10V	IC901	8-759-538-57	IC MPC1830ADTB	
C620	1-164-156-11	CERAMIC CHIP 0.1uF	25V	IC902	8-759-599-62	IC XC6383C281MR	
C621	1-117-919-11	TANTALUM CHIP 10uF	20% 6.3V			< JACK >	
C801	1-162-962-11	CERAMIC CHIP 470PF	10% 50V	J301	1-779-867-61	JACK (♁, REMOTE)	
C803	1-162-970-11	CERAMIC CHIP 0.01uF	10% 25V			< COIL >	
C804	1-162-964-11	CERAMIC CHIP 0.001uF	10% 50V	L501	1-412-006-31	INDUCTOR CHIP 10uH	
C805	1-164-156-11	CERAMIC CHIP 0.1uF	25V	L551	1-412-031-11	INDUCTOR CHIP 47uH	
C807	1-115-156-11	CERAMIC CHIP 1uF	10V	L552	1-412-031-11	INDUCTOR CHIP 47uH	
C808	1-164-156-11	CERAMIC CHIP 0.1uF	25V	L553	1-412-030-11	INDUCTOR CHIP 22uH	
C809	1-164-156-11	CERAMIC CHIP 0.1uF	25V	L554	1-412-030-11	INDUCTOR CHIP 22uH	
C813	1-117-232-11	TANTALUM CHIP 22uF	20% 4V	L555	1-412-030-11	INDUCTOR CHIP 22uH	
C831	1-164-156-11	CERAMIC CHIP 0.1uF	25V	L556	1-414-410-21	SMALL TYPE INDUCTOR (SMD TYPE) 10uH	
C832	1-162-964-11	CERAMIC CHIP 0.001uF	10% 50V	L901	1-412-032-11	INDUCTOR CHIP 100uH	
C833	1-162-964-11	CERAMIC CHIP 0.001uF	10% 50V	L902	1-419-131-21	COIL, CHOKE 15uH	
C834	1-164-156-11	CERAMIC CHIP 0.1uF	25V	L903	1-414-410-21	SMALL TYPE INDUCTOR (SMD TYPE) 10uH	
C901	1-162-964-11	CERAMIC CHIP 0.001uF	10% 50V	L904	1-414-406-41	INDUCTOR (SMD) 220uH	
C902	1-162-970-11	CERAMIC CHIP 0.01uF	10% 25V			< TRANSISTOR >	
C903	1-107-826-11	CERAMIC CHIP 0.1uF	10% 16V	Q501	8-729-049-81	FET SSM3K01F-TE85L	
C904	1-109-982-11	CERAMIC CHIP 1uF	10% 10V	Q502	8-729-046-90	TRANSISTOR 2SB970- (TX).S0	
C905	1-162-964-11	CERAMIC CHIP 0.001uF	10% 50V	Q503	8-729-425-46	TRANSISTOR XP4315-TXE	
C906	1-107-826-11	CERAMIC CHIP 0.1uF	10% 16V	Q551	8-729-904-87	TRANSISTOR 2SB1197K-R	
C907	1-107-826-11	CERAMIC CHIP 0.1uF	10% 16V	Q552	8-729-929-11	TRANSISTOR DTC143ZE-TL	
C908	1-109-982-11	CERAMIC CHIP 1uF	10% 10V	Q901	8-729-049-81	FET SSM3K01F-TE85L	
C910	1-162-970-11	CERAMIC CHIP 0.01uF	10% 25V	Q902	8-729-049-81	FET SSM3K01F-TE85L	
C911	1-135-259-11	TANTALUM CHIP 10uF	20% 6.3V	Q903	8-729-929-11	TRANSISTOR DTC143ZE-TL	
C912	1-135-259-11	TANTALUM CHIP 10uF	20% 6.3V				
C918	1-164-156-11	CERAMIC CHIP 0.1uF	25V				
C919	1-164-156-11	CERAMIC CHIP 0.1uF	25V				
C920	1-164-156-11	CERAMIC CHIP 0.1uF	25V				
		< CONNECTOR >					
* CN301	1-750-316-31	CONNECTOR, BOARD TO BOARD 10P					

Replacement of CXD2663GA (IC601) used in this set requires a special tool. Therefore, it cannot be replaced.

Ref. No.	Part No.	Description	Remark
< RESISTOR >			
R101	1-216-819-11	METAL CHIP 680	5% 1/16W
R201	1-216-819-11	METAL CHIP 680	5% 1/16W
R501	1-216-831-11	METAL CHIP 6.8K	5% 1/16W
R502	1-216-859-11	RES, CHIP 1.5M	5% 1/16W
R503	1-216-853-11	METAL CHIP 470K	5% 1/16W
R504	1-216-825-11	METAL CHIP 2.2K	5% 1/16W
R505	1-216-825-11	METAL CHIP 2.2K	5% 1/16W
R506	1-216-825-11	METAL CHIP 2.2K	5% 1/16W
R507	1-216-835-11	METAL CHIP 15K	5% 1/16W
R508	1-216-835-11	METAL CHIP 15K	5% 1/16W
R509	1-216-845-11	METAL CHIP 100K	5% 1/16W
R510	1-216-843-11	METAL CHIP 68K	5% 1/16W
R511	1-216-833-11	RES, CHIP 10K	5% 1/16W
R512	1-216-843-11	METAL CHIP 68K	5% 1/16W
R513	1-216-864-11	METAL CHIP 0	5% 1/16W
R514	1-216-864-11	METAL CHIP 0	5% 1/16W
R515	1-216-821-11	METAL CHIP 1K	5% 1/16W
R517	1-216-811-11	METAL CHIP 150	5% 1/16W
R518	1-218-446-11	METAL CHIP 1	5% 1/16W
R519	1-216-857-11	METAL CHIP 1M	5% 1/16W
R521	1-216-833-11	RES, CHIP 10K	5% 1/16W
R522	1-216-857-11	METAL CHIP 1M	5% 1/16W
R523	1-216-821-11	METAL CHIP 1K	5% 1/16W
R524	1-216-833-11	RES, CHIP 10K	5% 1/16W
R525	1-216-833-11	RES, CHIP 10K	5% 1/16W
R526	1-216-833-11	RES, CHIP 10K	5% 1/16W
R553	1-216-833-11	RES, CHIP 10K	5% 1/16W
R554	1-216-833-11	RES, CHIP 10K	5% 1/16W
R555	1-216-809-11	METAL CHIP 100	5% 1/16W
R556	1-216-853-11	METAL CHIP 470K	5% 1/16W
R602	1-216-821-11	METAL CHIP 1K	5% 1/16W
R604	1-216-841-11	METAL CHIP 47K	5% 1/16W
R605	1-216-833-11	RES, CHIP 10K	5% 1/16W
R606	1-216-845-11	METAL CHIP 100K	5% 1/16W
R607	1-216-855-11	METAL CHIP 680K	5% 1/16W
R610	1-216-827-11	METAL CHIP 3.3K	5% 1/16W
R611	1-216-857-11	METAL CHIP 1M	5% 1/16W
R612	1-216-811-11	METAL CHIP 150	5% 1/16W
R613	1-216-821-11	METAL CHIP 1K	5% 1/16W
R614	1-216-821-11	METAL CHIP 1K	5% 1/16W
R615	1-216-803-11	METAL CHIP 33	5% 1/16W
R616	1-216-864-11	METAL CHIP 0	5% 1/16W
R617	1-216-803-11	METAL CHIP 33	5% 1/16W
R618	1-216-864-11	METAL CHIP 0	5% 1/16W
R620	1-216-864-11	METAL CHIP 0	5% 1/16W
R801	1-216-845-11	METAL CHIP 100K	5% 1/16W
R802	1-216-845-11	METAL CHIP 100K	5% 1/16W
R803	1-216-853-11	METAL CHIP 470K	5% 1/16W
R804	1-216-833-11	RES, CHIP 10K	5% 1/16W
R805	1-216-853-11	METAL CHIP 470K	5% 1/16W
R806	1-218-895-11	RES, CHIP 100K	0.5% 1/16W
R807	1-218-895-11	RES, CHIP 100K	0.5% 1/16W
R808	1-216-825-11	METAL CHIP 2.2K	5% 1/16W
R811	1-216-827-11	METAL CHIP 3.3K	5% 1/16W
R812	1-216-841-11	METAL CHIP 47K	5% 1/16W
R813	1-216-833-11	METAL CHIP 10K	5% 1/16W

Ref. No.	Part No.	Description	Remark
R819	1-216-853-11	METAL CHIP 470K	5% 1/16W
R821	1-216-857-11	METAL CHIP 1M	5% 1/16W
R841	1-216-809-11	METAL CHIP 100	5% 1/16W
R842	1-216-809-11	METAL CHIP 100	5% 1/16W
R901	1-216-845-11	METAL CHIP 100K	5% 1/16W
R902	1-216-849-11	METAL CHIP 220K	5% 1/16W
R903	1-216-863-11	RES, CHIP 3.3M	5% 1/16W
R904	1-216-845-11	METAL CHIP 100K	5% 1/16W
R905	1-216-857-11	METAL CHIP 1M	5% 1/16W
R909	1-216-847-11	METAL CHIP 150K	5% 1/16W
R910	1-218-871-11	RES, CHIP 10K	0.5% 1/16W
R911	1-216-833-11	RES, CHIP 10K	5% 1/16W
R912	1-216-864-11	METAL CHIP 0	5% 1/16W
R913	1-216-819-11	METAL CHIP 680	5% 1/16W
R914	1-216-857-11	METAL CHIP 1M	5% 1/16W
R915	1-216-857-11	METAL CHIP 1M	5% 1/16W
R916	1-216-859-11	RES, CHIP 1.5M	5% 1/16W
R918	1-216-845-11	METAL CHIP 100K	5% 1/16W
< COMPOSITION CIRCUIT BLOCK >			
RB551	1-233-961-11	RES, NETWORK (CHIP TYPE) 1K	
RB552	1-233-979-11	RES, NETWORK (CHIP TYPE) 1M	
RB601	1-233-981-21	RES, NETWORK (CHIP TYPE) 0	
RB801	1-233-977-11	RES, NETWORK (CHIP TYPE) 470K	
RB802	1-233-969-11	RES, NETWORK (CHIP TYPE) 22K	
RB803	1-233-973-11	RES, NETWORK (CHIP TYPE) 100K	
< VIBRATOR >			
X601	1-781-556-21	VIBRATOR, CRYSTAL (22.5792MHz)	
X801	1-767-621-11	VIBRATOR, CERAMIC (16.9344MHz)	
*****			
		A-3322-066-A	SW BOARD, COMPLETE
*****			
< CONNECTOR >			
* CN802	1-793-328-21	CONNECTOR, FPC	
< LED >			
D801	8-719-061-82	LED TLSU1002 (TPX1, SONY) (OPERATE)	
< RESISTOR >			
R814	1-216-825-11	METAL CHIP 2.2K	5% 1/16W
R815	1-216-829-11	METAL CHIP 4.7K	5% 1/16W
R816	1-216-831-11	METAL CHIP 6.8K	5% 1/16W
R817	1-216-835-11	METAL CHIP 15K	5% 1/16W
R818	1-216-839-11	METAL CHIP 33K	5% 1/16W
< SWITCH >			
S301	1-762-079-11	SWITCH, SLIDE (DIGITAL MEGABASS)	
S801	1-771-483-21	SWITCH, PUSH (1KEY) (OPEN/CLOSE)	
S802	1-572-922-11	SWITCH, SLIDE (HOLD)	
S803	1-762-078-11	SWITCH, SLIDE (AVLS)	
*****			

# MZ-E80

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>
		MISCELLANEOUS *****	
10	1-674-262-11	SWITCH FLEXIBLE BOARD	
53	1-670-707-11	CLV FLEXIBLE BOARD	
△ 63	X-4949-164-1	OPTICAL PICK-UP ASSY (ODX-1B)	
M501	8-835-594-02	MOTOR, DC SSM-01C03A/C-N (SPINDLE)	
M502	1-698-764-21	MOTOR, SLED (SLED)	

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## ACCESSORIES & PACKING MATERIALS

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	1-418-493-11	REMOTE CONTROL UNIT (RM-MZE1)	
△	1-528-580-21	BATTERY CHARGER (BC-7HT) (Tourist)	
	1-528-842-11	BATTERY, NICKEL HYDROGEN	
△	1-528-866-11	BATTERY CHARGER (BC-9HP2) (Hong Kong)	
△	1-569-007-11	ADAPTOR, CONVERSION 2P (Tourist)	
	1-759-628-21	CASE, BATTERY	
	3-008-521-21	CASE, BATTERY CHARGE	
	3-867-258-11	MANUAL, INSTRUCTION (JAPANESE, KOREAN) (Tourist)	
	3-867-258-21	MANUAL, INSTRUCTION (ENGLISH, CHINESE)	
	3-867-258-31	MANUAL, INSTRUCTION (FRENCH, SPANISH) (Tourist)	
	4-221-117-01	CASE, CARRYING	
	4-221-753-01	STRAP, HAND (BLUE)	
	4-221-753-11	STRAP, HAND (SILVER)	
	4-221-753-21	STRAP, HAND (BLACK)	
	8-953-304-90	HEADPHONE MDR-E805SP	

The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

# MZ-E80

SONY®

*E Model*  
*Tourist Model*

## SERVICE MANUAL

2000. 05

### SUPPLEMENT-1

File this supplement with the service manual.

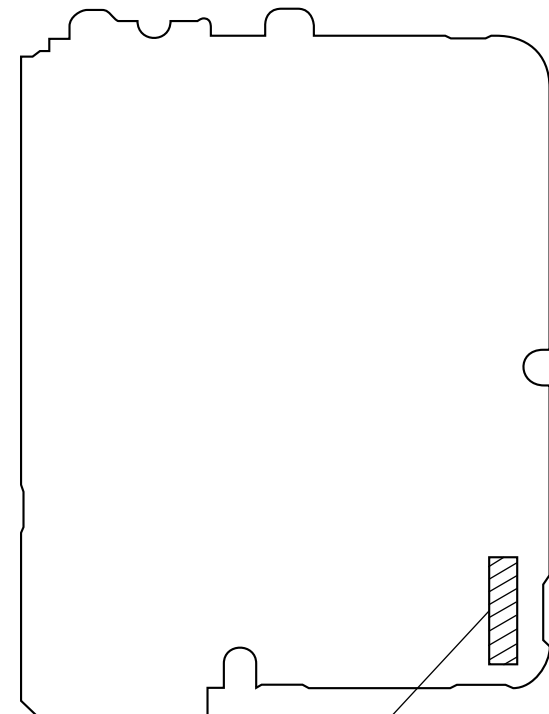
**Subject: Change of Boards**

(ECN-DA800895, DA800972)

The MAIN board, AUDIO board, and SW board have been changed in the middle of production. Printed wiring board and schematic diagram of new type, and changed parts list are described in this Supplement-1.  
Refer to original service manual (9-927-132-11) previously issued for other information.  
When performing service and inspection, check the suffix of the part number of boards.

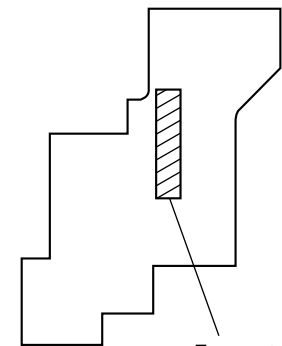
#### • NEW/FORMER TYPE DISCRIMINATION

##### – MAIN BOARD (Conductor Side) –



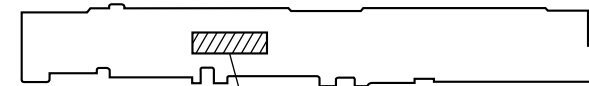
Former type: 1-674-351-11  
New type : 1-674-351-12

##### – AUDIO BOARD (Component Side) –



Former type: 1-674-352-11  
New type : 1-674-352-12

##### – SWITCH BOARD (Conductor Side) –



Former type: 1-674-263-11  
New type : 1-674-263-12



• Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D151	H-9	IC506	D-13
D251	G-10	IC551	D-10
D351	H-9	IC552	B-11
D801	J-15	IC601	E-13
D802	F-14	IC801	C-14
D803	F-13	IC802	D-14
D804	F-13	IC901	B-9
D841	G-11	IC902	A-13
D901	B-11		
D902	F-10	Q301	I-17
D903	A-13	Q501	F-14
		Q502	G-11
		Q503	F-14
IC301	I-16	Q551	E-10
IC501	G-13	Q552	E-11
IC502	G-12	Q901	B-12
IC503	E-14	Q902	C-12
IC504	C-13	Q903	B-13
IC505	D-14		

Note on Printed Wiring Boards:

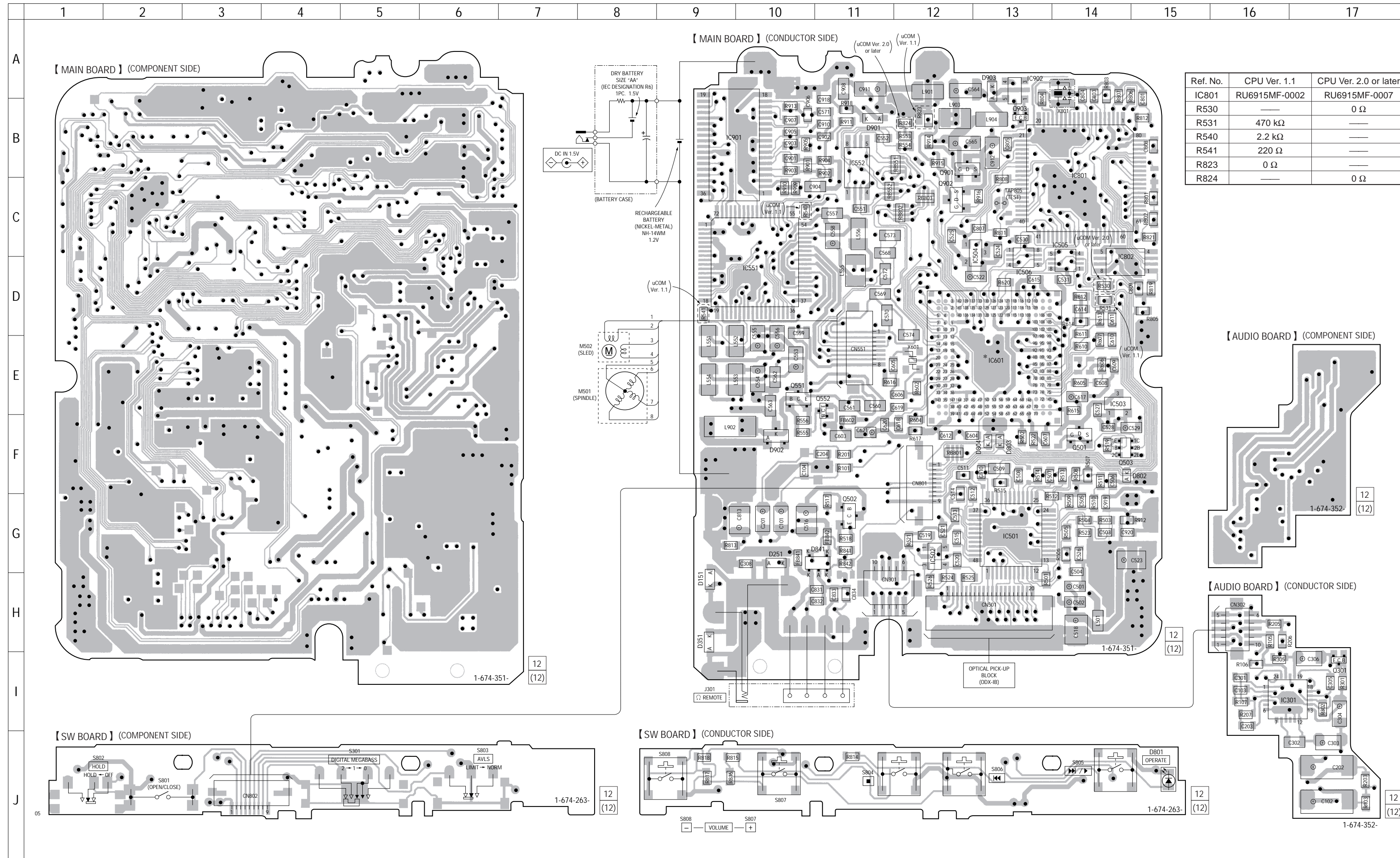
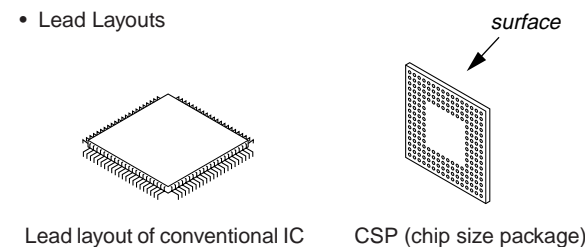
- : parts extracted from the conductor side.
  - : Through hole.
  - : internal component.
  - : Pattern from the side which enables seeing.
- (The other layers' patterns are not indicated.)

Caution:  
 Pattern face side: Parts on the pattern face side seen from the conductor side are indicated.  
 Parts face side: Parts on the parts face side seen from the component side are indicated.

• Main board is four-layer printed board. However, the patterns of layers 2 and 3 have not been included in this diagrams.

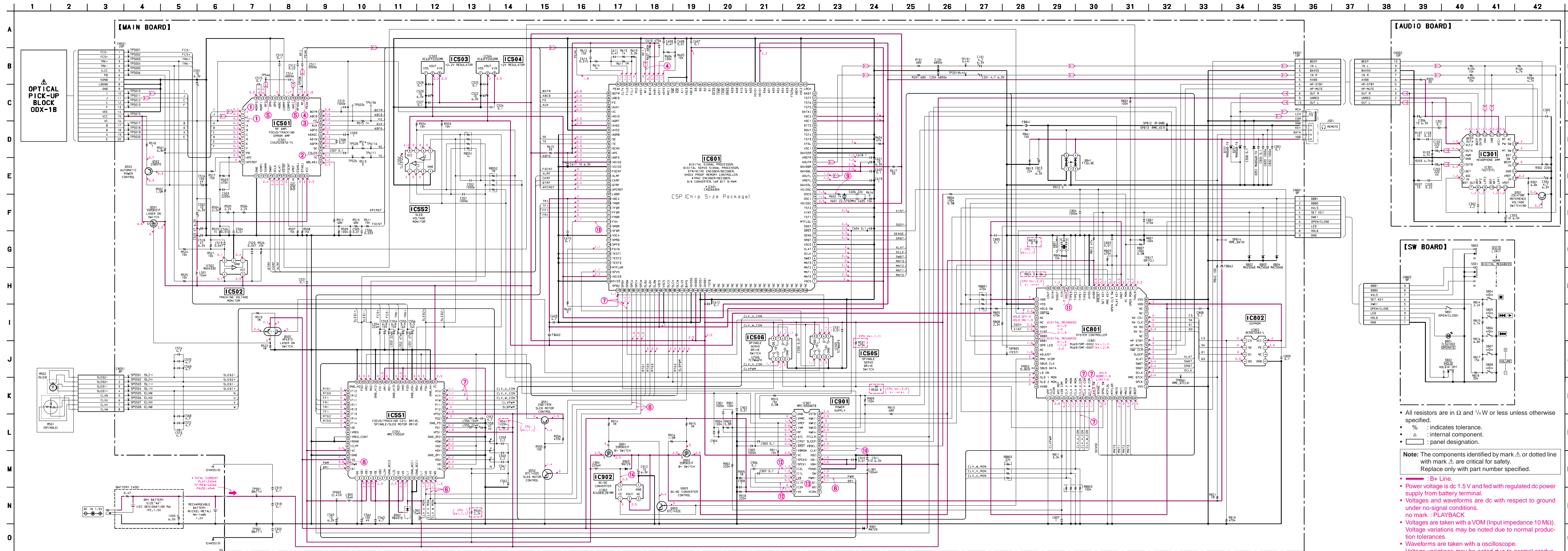
※ IC601 is not replaceable

• Lead Layouts



Ref. No.	CPU Ver. 1.1	CPU Ver. 2.0 or later
IC801	RU6915MF-0002	RU6915MF-0007
R530	—	0 Ω
R531	470 kΩ	—
R540	2.2 kΩ	—
R541	220 Ω	—
R823	0 Ω	—
R824	—	0 Ω

• SCHEMATIC DIAGRAM



• All resistors are in  $\Omega$  and  $\frac{1}{4}$  W or less unless otherwise specified.  
 • % : indicates tolerance.  
 •  $\Delta$  : internal component.  
 •  $\square$  : panel designation.

**Note:** The components identified by mark  $\Delta$  or dotted line with mark  $\Delta$  are critical for safety. Replace only with part number specified.

- **+** : B+ Line.
- Power voltage is dc 1.5V and fed with regulated dc power supply from battery terminal.
- Voltages and waveforms are dc with respect to ground under no-signal conditions.
- Voltages are taken with a VOM (Input impedance 10 M $\Omega$ ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with an oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
- **↔** : PLAYBACK

\* IC601 is not replaceable

**Note on Schematic Diagram:**  
 • All capacitors are in  $\mu$ F unless otherwise noted. pF: pF, nF: nF,  $\mu$ F:  $\mu$ F, 50 WV or less are not indicated except for electrolytics and tantalums.

• The voltage and waveform of CSP (chip size package) cannot be measured, because its lead layout is different form that of conventional IC.



AUDIO

MAIN

MAIN

MAIN

SW

SW

• ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS  
All resistors are in ohms.  
METAL: Metal-film resistor.  
METAL OXIDE: Metal oxide-film resistor.  
F: nonflammable
- Items marked “\*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS  
In each case, u:  $\mu$ , for example:  
uA. . :  $\mu$ A. . uPA. . :  $\mu$ PA. .  
uPB. . :  $\mu$ PB. . uPC. . :  $\mu$ PC. .  
uPD. . :  $\mu$ PD. .  
• CAPACITORS  
uF:  $\mu$ F  
• COILS  
uH:  $\mu$ H

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description	Remark
	A-3322-068-A	AUDIO BOARD, COMPLETE *****	
		< CAPACITOR >	
C102	1-125-899-11	TANTALUM CHIP 220uF	20% 4V
C103	1-115-467-11	CERAMIC CHIP 0.22uF	10% 10V
C202	1-125-899-11	TANTALUM CHIP 220uF	20% 4V
C203	1-115-467-11	CERAMIC CHIP 0.22uF	10% 10V
C301	1-107-826-11	CERAMIC CHIP 0.1uF	10% 16V
C302	1-125-838-11	CERAMIC CHIP 2.2uF	10% 6.3V
C303	1-135-259-11	TANTALUM CHIP 10uF	20% 6.3V
C304	1-109-935-11	TANTALUM CHIP 4.7uF	20% 6.3V
C305	1-125-837-11	CERAMIC CHIP 1uF	10% 6.3V
C306	1-135-259-11	TANTALUM CHIP 10uF	20% 6.3V
		< CONNECTOR >	
* CN302	1-750-281-31	CONNECTOR, BOARD TO BOARD 10P	
		< IC >	
IC301	8-759-598-15	IC TA2131FL-EL	
		< TRANSISTOR >	
Q301	8-729-037-52	TRANSISTOR 2SD2216J-QR (TX) S0	
		< RESISTOR >	
R103	1-216-829-11	METAL CHIP 4.7K	5% 1/16W
R105	1-216-835-11	METAL CHIP 15K	5% 1/16W
R106	1-216-829-11	METAL CHIP 4.7K	5% 1/16W
R107	1-216-797-11	METAL CHIP 10	5% 1/16W
R203	1-216-829-11	METAL CHIP 4.7K	5% 1/16W
R205	1-216-835-11	METAL CHIP 15K	5% 1/16W
R206	1-216-829-11	METAL CHIP 4.7K	5% 1/16W
R207	1-216-797-11	METAL CHIP 10	5% 1/16W
R301	1-216-831-11	METAL CHIP 6.8K	5% 1/16W
R302	1-216-849-11	METAL CHIP 220K	5% 1/16W
R305	1-216-803-11	METAL CHIP 33	5% 1/16W
		*****	
	A-3323-244-A	MAIN BOARD, COMPLETE *****	
	4-219-844-01	TERMINAL	
	4-223-223-01	SHEET (TERMINAL)	

Ref. No.	Part No.	Description	Remark
C558	1-107-811-11	TANTALUM CHIP 47uF	20% 4V
C559	1-125-838-11	CERAMIC CHIP 2.2uF	10% 6.3V
C560	1-125-838-11	CERAMIC CHIP 2.2uF	10% 6.3V
C561	1-125-838-11	CERAMIC CHIP 2.2uF	10% 6.3V
C562	1-109-982-11	CERAMIC CHIP 1uF	10% 10V
C563	1-117-720-11	CERAMIC CHIP 4.7uF	10% 10V
C564	1-127-569-11	TANTALUM CHIP 100uF	20% 4V
C565	1-135-259-11	TANTALUM CHIP 10uF	20% 6.3V
C568	1-127-760-11	CERAMIC CHIP 4.7uF	10% 6.3V
C569	1-127-760-11	CERAMIC CHIP 4.7uF	10% 6.3V
C570	1-127-760-11	CERAMIC CHIP 4.7uF	10% 6.3V
C572	1-127-760-11	CERAMIC CHIP 4.7uF	10% 6.3V
C573	1-127-760-11	CERAMIC CHIP 4.7uF	10% 6.3V
C574	1-127-760-11	CERAMIC CHIP 4.7uF	10% 6.3V
C603	1-117-720-11	CERAMIC CHIP 4.7uF	10V
C604	1-164-156-11	CERAMIC CHIP 0.1uF	25V
C605	1-162-917-11	CERAMIC CHIP 15PF	5% 50V
C606	1-162-919-11	CERAMIC CHIP 22PF	5% 50V
C607	1-164-156-11	CERAMIC CHIP 0.1uF	25V
C608	1-162-970-11	CERAMIC CHIP 0.01uF	10% 25V
C609	1-125-891-11	CERAMIC CHIP 0.47uF	10% 10V
C610	1-162-962-11	CERAMIC CHIP 470PF	10% 50V
C611	1-125-891-11	CERAMIC CHIP 0.47uF	10% 10V
C612	1-164-156-11	CERAMIC CHIP 0.1uF	25V
C614	1-164-245-11	CERAMIC CHIP 0.015uF	10% 50V
C615	1-164-156-11	CERAMIC CHIP 0.1uF	25V
C617	1-117-919-11	TANTALUM CHIP 10uF	20% 6.3V
C618	1-115-156-11	CERAMIC CHIP 1uF	10V
C619	1-115-156-11	CERAMIC CHIP 1uF	10V
C620	1-164-156-11	CERAMIC CHIP 0.1uF	25V
C621	1-117-919-11	TANTALUM CHIP 10uF	20% 6.3V
C801	1-162-962-11	CERAMIC CHIP 470PF	10% 50V
C803	1-162-970-11	CERAMIC CHIP 0.01uF	10% 25V
C804	1-162-964-11	CERAMIC CHIP 0.001uF	10% 50V
C805	1-164-156-11	CERAMIC CHIP 0.1uF	25V
C807	1-115-156-11	CERAMIC CHIP 1uF	10V
C808	1-164-156-11	CERAMIC CHIP 0.1uF	25V
C809	1-164-156-11	CERAMIC CHIP 0.1uF	25V
C813	1-127-574-11	TANTALUM CHIP 22uF	20% 6.3V
C831	1-164-156-11	CERAMIC CHIP 0.1uF	25V
C832	1-162-964-11	CERAMIC CHIP 0.001uF	10% 50V
C833	1-162-964-11	CERAMIC CHIP 0.001uF	10% 50V
C834	1-164-156-11	CERAMIC CHIP 0.1uF	25V
C901	1-162-964-11	CERAMIC CHIP 0.001uF	10% 50V
C902	1-162-970-11	CERAMIC CHIP 0.01uF	10% 25V
C903	1-107-826-11	CERAMIC CHIP 0.1uF	10% 16V
C904	1-109-982-11	CERAMIC CHIP 1uF	10% 10V
C905	1-162-964-11	CERAMIC CHIP 0.001uF	10% 50V
C906	1-107-826-11	CERAMIC CHIP 0.1uF	10% 16V
C907	1-107-826-11	CERAMIC CHIP 0.1uF	10% 16V
C908	1-109-982-11	CERAMIC CHIP 1uF	10% 10V
C910	1-162-970-11	CERAMIC CHIP 0.01uF	10% 25V
C911	1-117-920-11	TANTALUM CHIP 10uF	20% 6.3V
C912	1-135-259-11	TANTALUM CHIP 10uF	20% 6.3V
C918	1-164-156-11	CERAMIC CHIP 0.1uF	25V
C919	1-164-156-11	CERAMIC CHIP 0.1uF	25V
C920	1-164-156-11	CERAMIC CHIP 0.1uF	25V

Ref. No.	Part No.	Description	Remark
		< CONNECTOR >	
* CN501	1-750-316-31	CONNECTOR, BOARD TO BOARD 10P	
* CN501	1-778-168-11	CONNECTOR, FFC/FPC (ZIF) 20P	
* CN551	1-793-124-21	CONNECTOR, FPC (ZIF) 8P	
* CN801	1-793-327-21	CONNECTOR, FPC (ZIF) 9P	
		< DIODE >	
D151	8-719-017-58	DIODE MA8068	
D251	8-719-017-58	DIODE MA8068	
D351	8-719-017-58	DIODE MA8068	
D802	8-719-056-54	DIODE MAZS068008SO	
D803	8-719-056-54	DIODE MAZS068008SO	
D804	8-719-056-54	DIODE MAZS068008SO	
D841	8-719-066-17	DIODE FTZ6.8E-T148	
D901	8-719-420-51	DIODE MA729	
D902	8-719-066-16	DIODE RB491D-T146	
D903	8-719-420-51	DIODE MA729	
		< FERRITE BEAD >	
FB602	1-414-227-11	FERRITE BEAD INDUCTOR CHIP	0uH
FB841	1-414-228-11	FERRITE BEAD INDUCTOR CHIP	0uH
FB842	1-414-228-11	FERRITE BEAD INDUCTOR CHIP	0uH
		< IC >	
IC501	8-752-093-82	IC CXA2523ATQ-T4	
IC502	8-759-581-57	IC MAX4330EUK-TG069	
IC503	8-759-599-61	IC XC62FP2202MR	
IC504	8-759-488-26	IC XC62FP2002MR	
IC505	8-759-647-75	IC TC7W66FK (TE85R)	
IC506	8-759-647-75	IC TC7W66FK (TE85R)	
IC551	8-759-390-25	IC MPC17A55FTA	
IC552	8-759-358-40	IC TLC372CPW-E20	
@ IC601	8-752-400-31	IC CXD2663GA	
IC801	8-759-646-42	IC RU6915MF-0002 (Ver. 1.1)	
IC801	8-759-669-12	IC RU6915MF-0007 (Ver. 2.3)	
IC802	8-759-449-23	IC AK93C55AV-L	
IC901	8-759-538-57	IC MPC1830ADTBEL	
IC902	8-759-599-62	IC XC6383C281MR	
		< JACK >	
J301	1-779-867-61	JACK (♯) REMOTE	
		< COIL >	
L501	1-412-006-31	INDUCTOR CHIP 10uH	
L551	1-412-031-11	INDUCTOR CHIP 47uH	
L552	1-412-031-11	INDUCTOR CHIP 47uH	
L553	1-412-030-11	INDUCTOR CHIP 22uH	
L554	1-412-030-11	INDUCTOR CHIP 22uH	
L555	1-412-030-11	INDUCTOR CHIP 22uH	
L556	1-414-410-21	SMALL TYPE INDUCTOR (SMD TYPE) 10uH	
L901	1-412-032-11	INDUCTOR CHIP 100uH	
L902	1-419-131-21	COIL, CHOKE 15uH	
L903	1-414-410-21	SMALL TYPE INDUCTOR (SMD TYPE) 10uH	
L904	1-414-406-41	INDUCTOR (SMD TYPE) 220uH	
		< TRANSISTOR >	
Q501	8-729-049-81	FET SSM3K01F-TE85L	

@ Replacement of CXD2663GA (IC601) used in this set requires a special tool. Therefore, it cannot be replaced.

Ref. No.	Part No.	Description	Remark
Q502	8-729-046-90	TRANSISTOR 2SB970- (TX) S0	
Q503	8-729-425-46	TRANSISTOR XP4315-TXE	
Q551	8-729-904-87	TRANSISTOR 2SB1197K-R	
Q552	8-729-929-11	TRANSISTOR DTC143ZE-TL	
Q901	8-729-049-81	FET SSM3K01F-TE85L	
Q902	8-729-049-81	FET SSM3K01F-TE85L	
Q903	8-729-929-11	TRANSISTOR DTC143ZE-TL	
		< RESISTOR >	
R101	1-216-819-11	METAL CHIP 680	5% 1/16W
R201	1-216-819-11	METAL CHIP 680	5% 1/16W
R501	1-216-831-11	METAL CHIP 6.8K	5% 1/16W
R502	1-216-859-11	RES, CHIP 1.5M	5% 1/16W
R503	1-216-853-11	METAL CHIP 470K	5% 1/16W
R504	1-216-825-11	METAL CHIP 2.2K	5% 1/16W
R505	1-216-825-11	METAL CHIP 2.2K	5% 1/16W
R506	1-216-825-11	METAL CHIP 2.2K	5% 1/16W
R507	1-216-835-11	METAL CHIP 15K	5% 1/16W
R508	1-216-835-11	METAL CHIP 15K	5% 1/16W
R509	1-216-845-11	METAL CHIP 100K	5% 1/16W
R510	1-216-843-11	METAL CHIP 68K	5% 1/16W
R511	1-216-833-11	RES, CHIP 10K	5% 1/16W
R512	1-216-843-11	METAL CHIP 68K	5% 1/16W
R513	1-216-864-11	METAL CHIP 0	5% 1/16W
R514	1-216-864-11	METAL CHIP 0	5% 1/16W
R515	1-216-821-11	METAL CHIP 1K	5% 1/16W
R517	1-216-811-11	METAL CHIP 150	5% 1/16W
R518	1-218-821-11	METAL CHIP 1	5% 1/16W
R519	1-216-857-11	METAL CHIP 1M	5% 1/16W
R521	1-216-833-11	RES, CHIP 10K	5% 1/16W
R522	1-216-857-11	METAL CHIP 1M	5% 1/16W
R523	1-216-821-11	METAL CHIP 1K	5% 1/16W
R524	1-216-833-11	RES, CHIP 10K	5% 1/16W
R525	1-216-833-11	RES, CHIP 10K	5% 1/16W
R526	1-216-833-11	RES, CHIP 10K	5% 1/16W
R530	1-216-864-11	METAL CHIP 0	5% 1/16W
		(CPU Ver. 2.0 or later)	
R531	1-216-853-11	METAL CHIP 470K	5% 1/16W
		(CPU Ver. 1.1)	
R540	1-218-957-11	RES, CHIP 2.2K	5% 1/16W
		(CPU Ver. 1.1)	
R541	1-218-945-11	RES, CHIP 220	5% 1/16W
		(CPU Ver. 1.1)	
R553	1-216-833-11	RES, CHIP 10K	5% 1/16W
R554	1-216-833-11	RES, CHIP 10K	5% 1/16W
R555	1-216-809-11	METAL CHIP 100	5% 1/16W
R556	1-216-853-11	METAL CHIP 470K	5% 1/16W
R602	1-216-821-11	METAL CHIP 1K	5% 1/16W
R604	1-216-841-11	METAL CHIP 47K	5% 1/16W
R605	1-216-833-11	RES, CHIP 10K	5% 1/16W
R606	1-216-845-11	METAL CHIP 100K	5% 1/16W
R607	1-216-855-11	METAL CHIP 680K	5% 1/16W
R610	1-216-821-11	METAL CHIP 3.3K	5% 1/16W
R611	1-216-857-11	METAL CHIP 1M	5% 1/16W
R612	1-216-811-11	METAL CHIP 150	5% 1/16W